

**TOSHIBA**

FILE NO. 020-9913

SERVICE MANUAL

# COLOR TELEVISION

N9SS Chassis

***TZ50V61, TZ50V51***  
(TAC9950) (TAC9951)

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#### CIRCUIT DIAGRAM

## CHAPTER 1 GENERAL ADJUSTMENTS

### SAFETY INSTRUCTIONS

**WARNING:** BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" INSTRUCTIONS BELOW.

#### X-RAY RADIATION PRECAUTION

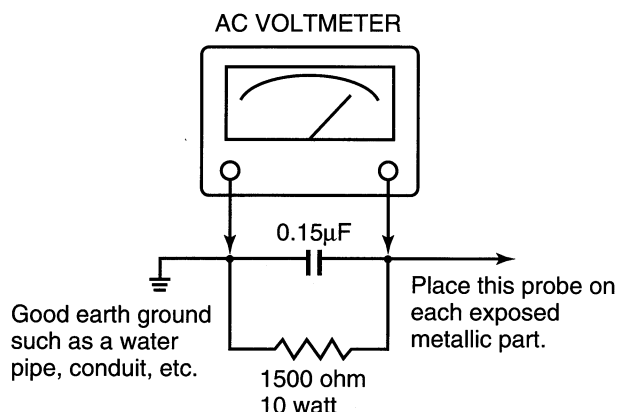
1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must not be above the specified limit. The nominal value of the high voltage of this receiver is (A) kV at zero beam current (minimum brightness) under a 120V AC power source. The high voltage must not, under any circumstances, exceed (B) kV.  
**Refer to table-1 for high voltage (A), (B).  
(See SETTING & ADJUSTING DATA on page 19)**  
Each time a receiver requires servicing, the high voltage should be checked following the HIGH VOLTAGE CHECK procedure in this manual. It is recommended that the reading of the high voltage be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.
2. This receiver is equipped with a Fail Safe (FS) circuit which prevents the receiver from producing an excessively high voltage even if the B+ voltage increases abnormally. Each time the receiver is serviced, the FS circuit must be checked to determine that the circuit is properly functioning, following the FS CIRCUIT CHECK procedure in this manual.
3. The only source of X-RAY RADIATION in this TV receiver is the picture tube. For continued X-RAY RADIATION protection, the replacement tube must be exactly the same type tube as specified in the parts list.
4. Some part in this receiver have special safety-related characteristics for X-RAY RADIATION protection. For continued safety, parts replacement should be undertaken only after referring to the PRODUCT SAFETY NOTICE below.

#### SAFETY PRECAUTION

**WARNING :** Service should not be attempted by anyone unfamiliar with the necessary precautions on this receiver. The following are the necessary precautions to be observed before servicing this chassis.

1. An isolation Transformer should be connected in the power line between the receiver and the AC line before any service is performed on the receiver.
2. Always discharge the picture tube anode to the CRT conductive coating before handling the picture tube. The picture tube is highly evacuated and if broken, glass fragments will be violently expelled. Use shatter proof goggles and keep picture tube away from the unprotected body while handling.
3. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as; non-metallic control knobs, insulating covers, shields, isolation resistor-capacitor network etc.
4. Before returning the set to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as antennas, terminals, screwheads, metal overlays, control shafts etc. to be sure the set is safe to operate without danger of electrical shock. Plug the AC line cord directly into a 120V AC outlet (do not use a line isolation transformer during this check). Use an AC voltmeter having 5000 ohms per volt or more sensitivity in the following manner:

Connect a 1500 ohm 10 watt resistor, paralleled by a 0.15  $\mu$ F, AC type capacitor, between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of 1500 ohm resistor and 0.15  $\mu$ F capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.3 volts rms. This corresponds to 0.2 milliamp. AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



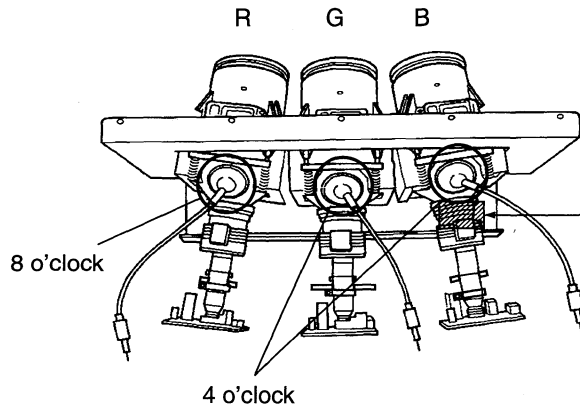
#### PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the international hazard symbols on the schematic diagram and the parts list.

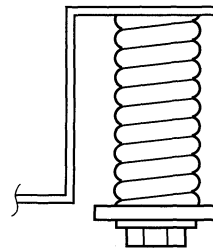
Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire, X-ray radiation or other hazards.

## CRT ASSEMBLY REPLACEMENT AND MOUNTING

**CAUTION : DO NOT LOOSEN THE HEX HEAD BOLTS WITH SPRINGS (12 PCS), BECAUSE THOSE ARE FOR SEALING OF CRT COOLANT.**

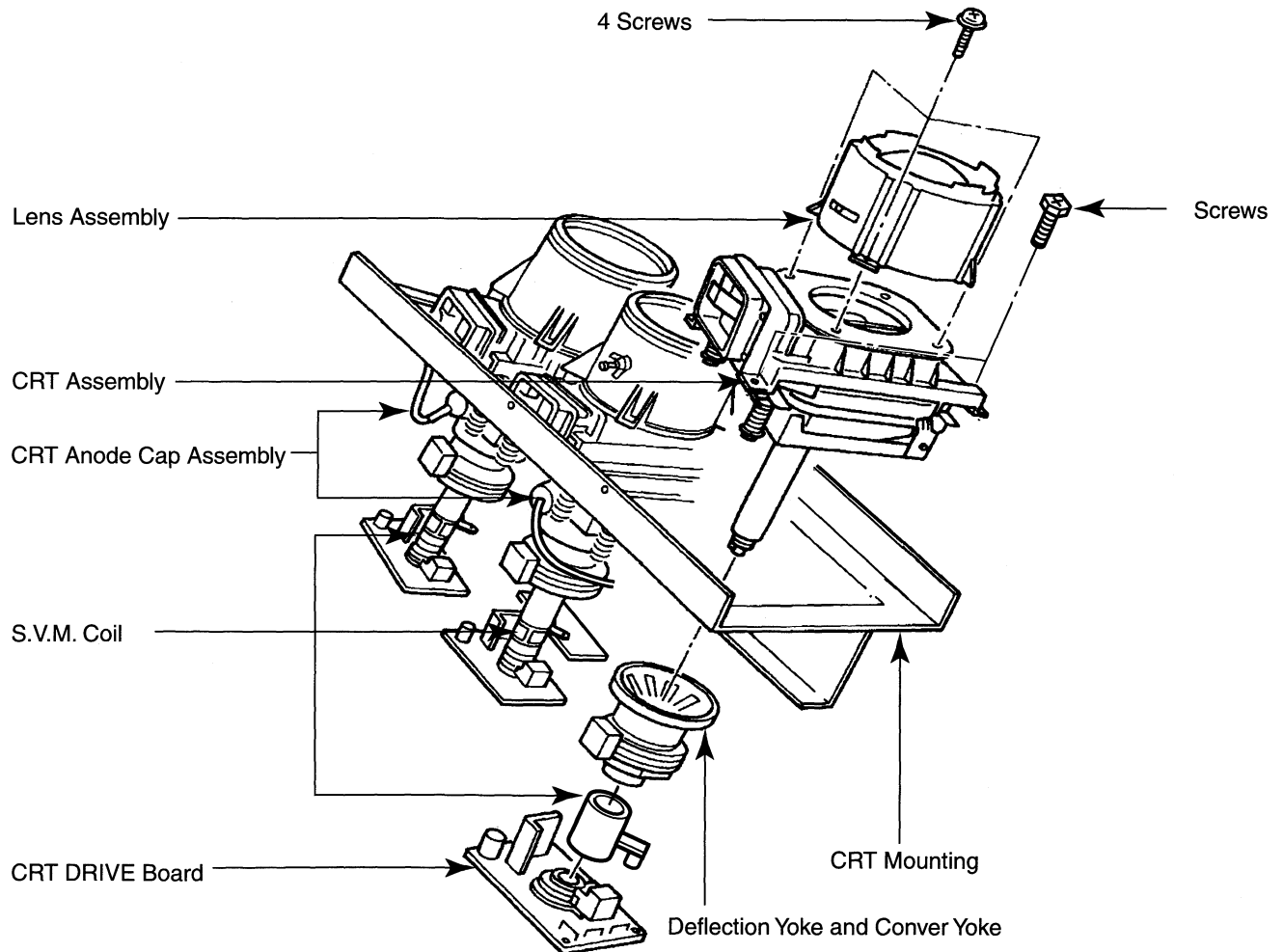


### Attention Serviceman



The Hex Head Bolts with Springs. (see sketch) used on CRT assembly, are "NOT"

Adjustment Screws  
**DO NOT LOOSEN-FLUID LEAKAGE WILL OCCUR.**



Lens and Neck Components View

### TO REMOVE CRT (Same procedure for R, G, B)

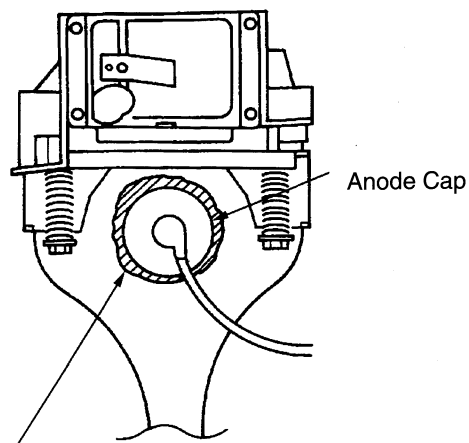
1. Remove CRT DRIVE Board, S. V. M. COIL and DEF. YOKE from CRT.
2. Remove Lens Assembly.
3. Detach CRT Anode Cap from CRT.
4. Remove CRT Assembly from CRT Mounting.

### CRT REPLACEMENT (Same procedure for R, G, B)

Reverse the removal procedures except the followings.

1. Anode Cable should be replaced with new one.  
See "SERVICING PRECAUTIONS" shown below.
2. Install silicon (T461B) to the CRT, replace the Anode cable and put enough silicon again on around the Anode Cap as illustrated.

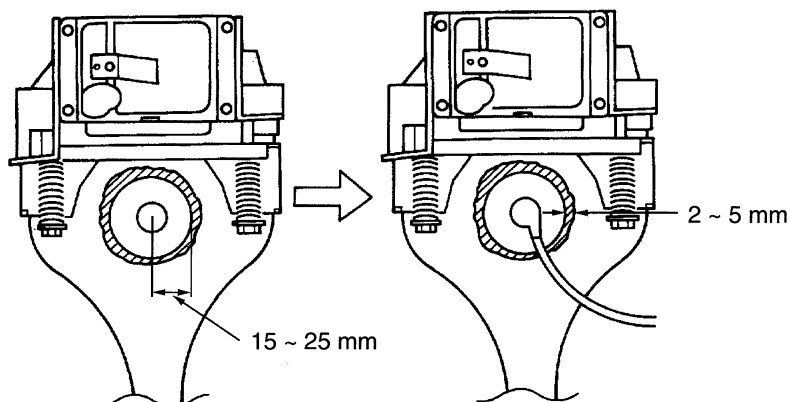
**CAUTION:** Align the Anode cable as illustrated on page 4.



Silicon  
(On shaded area)  
TSE3843W #23960136

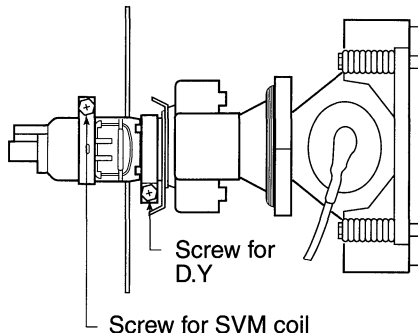
### ADJUSTING PROCEDURE IN REPLACING CRT

1. R.G.B. FOCUS ADJUSTMENT (page 6.)
  2. PICTURE TILT ADJUSTMENT (page 6.)
  3. USER CONVERGENCE CENTER CHECK  
(See owner's manual.)
  4. CENTERING ADJUSTMENT (page 6.)
  5. CONVERGENCE ADJUSTMENT (page 15.)
  6. WHITE BALANCE ADJUSTMENT (page 14.)
- Adjustments are complete.

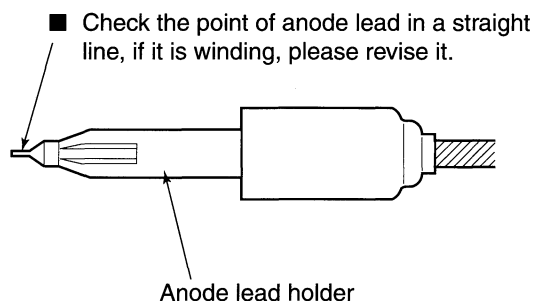


## SERVICING PRECAUTIONS

- Do not use a magnetized screw driver for screws of Deflection Yoke and Velocity Modulation Coil to avoid magnetization of electron gun. Magnetization of electron gun will degrade basic function and result in unbalance of right and left shift of user static convergence, and result in no variable quantity.



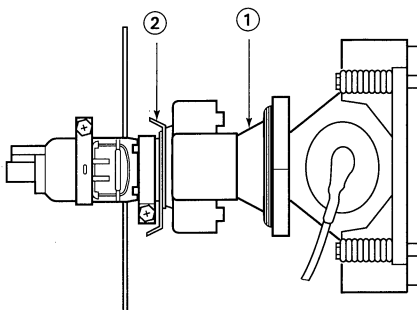
- When replacing the anode cap assembly (CRT) or anode lead assembly (F.B.T.), remove the anode lead holder from old one and attach the holder again to new anode lead.



**WARNING** : BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL.

## PICTURE TUBE COMPONENTS ADJUSTMENT

### DESCRIPTION OF NECK COMPONENTS



- ① Deflection yoke and convergence yoke  
The position on the neck is required most front (CRT funnel side) and the screw is fastened after rotating yoke adjusting picture tilt.
- ② Centering magnet  
After adjusting picture tilt, picture position is finally fixed by this magnet.  
In order to get maximum margin of user convergence control for center of screen, this magnet have to be used for center convergence adjustment.

### PREPARATION

Operate the receiver for at least 5 minutes.

### R, G, B FOCUS ADJUSTMENT

1. Before adjusting the R, G, B FOCUS, remove the 4 screws of Lens Assembly which is fixed on the CRT Assembly. (See page 4.)  
Then turn around the Lens Assembly by 180° to adjust the fastening screw (Fig. a) and fasten the 4 screws to secure Lens Assembly.
2. Select the adjustment mode. (See page 9.)
3. Press "7" button to display the built-in cross-hatch.
4. Press "0" and "RTN" buttons to make the picture a single Red color.  
100 button ..... to erase Red color  
0 button ..... to erase Green color  
RTN button ..... to erase Blue color
5. Loosen the fasten screw and adjust Red lense focus to best focusing point of picture center. Then fasten the screw. (See Fig. a.)

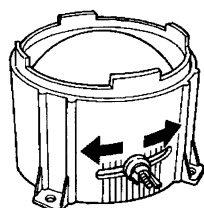


Fig. a

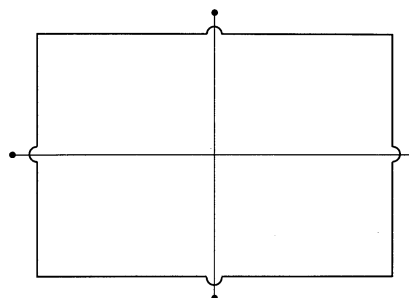
6. Adjust FOCUS VR "R" of FOCUS PAC to find best focusing point of picture center.
7. Repeat steps 3 to 5 for Green and Blue colors.

### TILT ADJUSTMENT

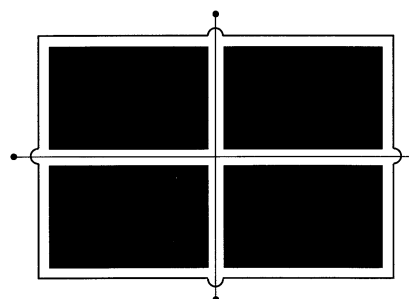
Rotate R, G, B deflection yoke so that picture becomes horizon, then fasten screw.

### CENTERING ADJUSTMENT

1. Stretch a thread between two center slots of screen edge (top and bottom, left and right).

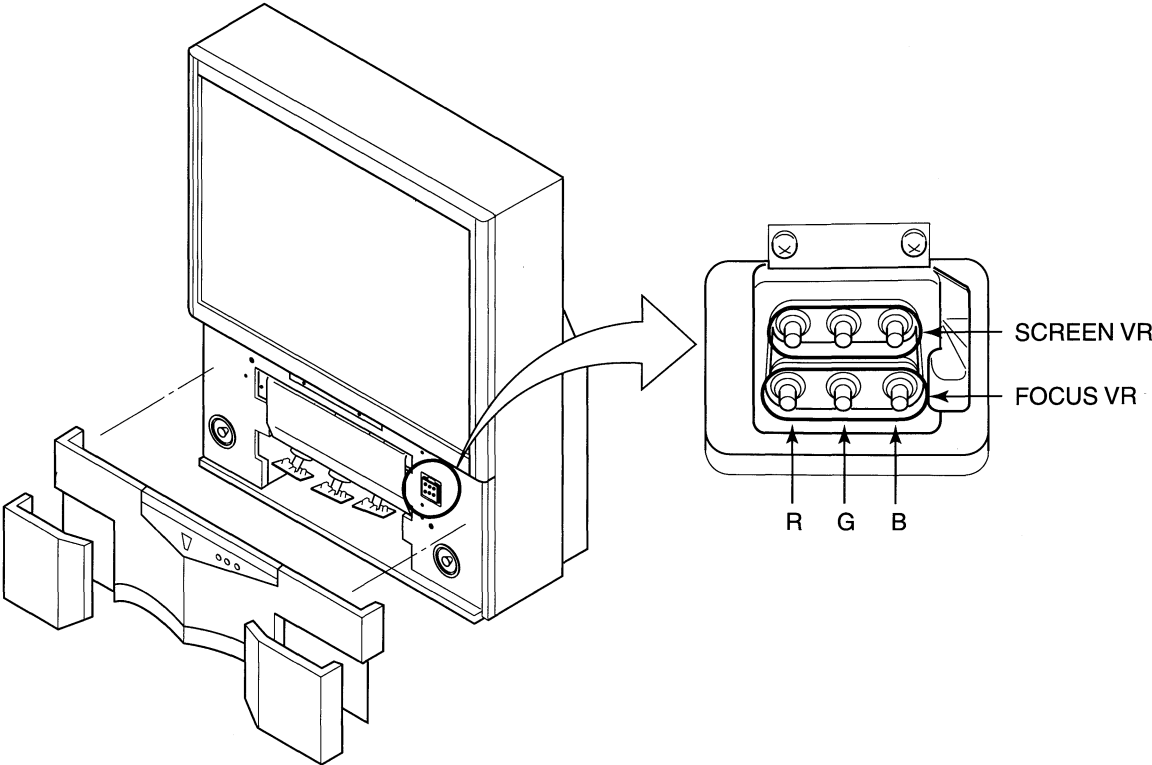


2. Select the adjustment mode.
3. Press TV/VIDEO button on the Remote Control to display the white cross-bar.



4. Adjust G centering magnet so that the cross-bar pattern center comes to screen center.
5. Perform HEIGHT adjustment. (See page 13.)
6. Perform VERT. LINEARITY adjustment.
7. Perform WIDTH adjustment. (See page 13.)
8. Check whole quality of green line.
9. Adjust R, B centering magnet so that the cross-bar pattern center comes to screen center.

LOCATION OF SCREEN AND FOCUS VR'S

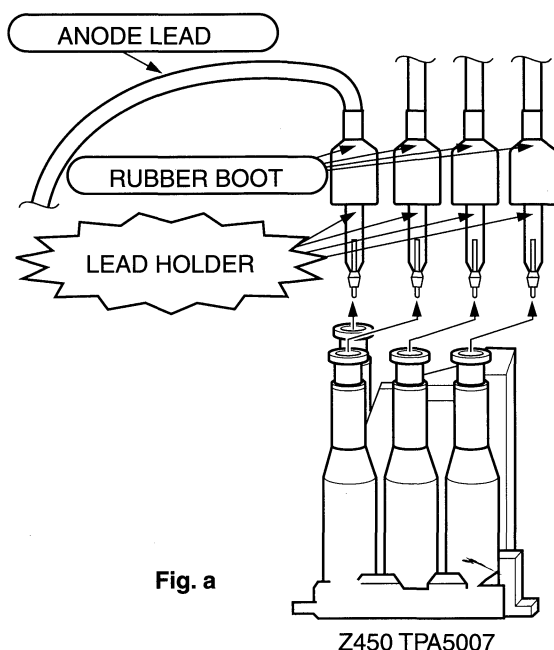


## REPLACEMENT OF THE CRT

Service parts are provided for each R, G and B.  
The contents of the parts are as follows.

|                |         | R        | G        | B        |
|----------------|---------|----------|----------|----------|
| HITACHI<br>CRT | TZ50V61 | 23796001 | 23796002 | 23796003 |
|                | TZ50V51 | ↑        | ↑        | ↑        |
|                | TZ55V61 | 23796311 | ↑        | 23796313 |
|                | TZ61V61 | 23796485 | ↑        | 23796486 |
|                | TZ43V61 | 23003591 | 23003592 | 23003593 |
| TOSHIBA<br>CRT | TE50T11 | 23003795 | 23003796 | 23003796 |
|                | TE55T11 | 23003807 | ↑        | ↑        |
|                | TN43V71 | 23003798 | 23003799 | 23003800 |
|                | TN50V71 | 23003795 | 23003796 | 23003797 |
|                | TN55V71 | (New)    | ↑        | ↑        |

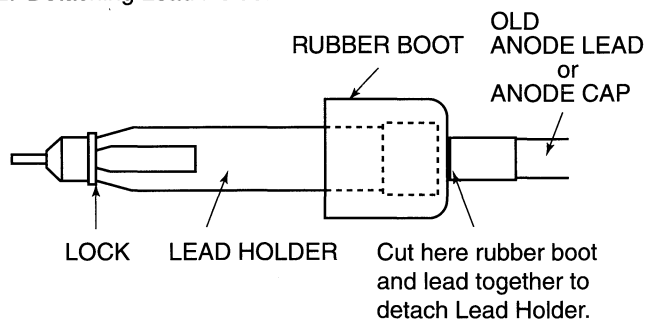
### REPLACEMENT OF HIGH VOLTAGE CABLE



1. When replacing Anode Lead or Anode Cap with new one, remove Lead Holder from old lead as shown in figure below, and put it on new lead. Do not throw away Lead Holder.

**NOTE : THE LEAD HOLDER IS ATTACHED TO TPA5007 (Z450), BUT IS NOT ATTACHED TO ANODE LEAD AND ANODE CAP. RUBBER BOOT IS ATTACHED TO ANODE LEAD AND ANODE CAP.**

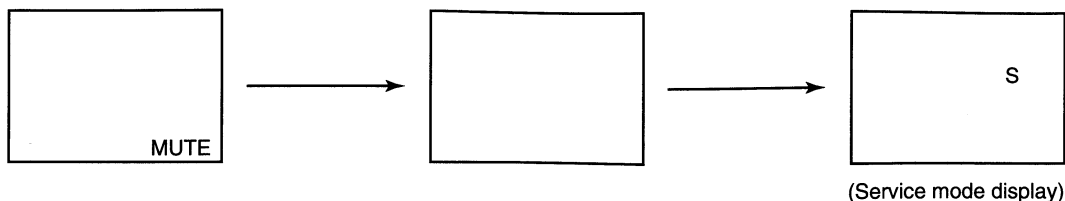
2. Detaching Lead Holder



## SERVICE MODE

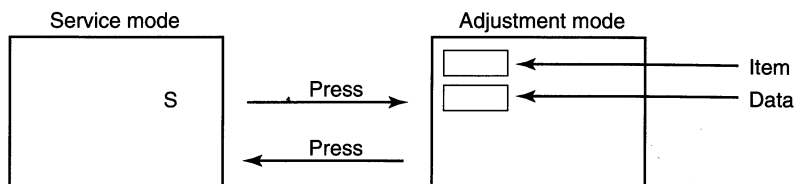
### 1. ENTERING TO SERVICE MODE

- 1) Press MUTE button once on Remote Control.
- 2) Press MUTE button again to keep pressing.
- 3) While pressing the MUTE button, press MENU button on TV set.



### 2. DISPLAYING THE ADJUSTMENT MENU

- 1) Press MENU button on TV.



### 3. KEY FUNCTION IN THE SERVICE MODE

The following key entry during display of adjustment menu provides special functions.

|                                             |                                   |
|---------------------------------------------|-----------------------------------|
| Screen adjustment mode ON/OFF:              | TV (ANT)/VIDEO button (on TV)     |
| Test signal selection :                     | TV (ANT)/VIDEO button (on Remote) |
| Selection of the adjustment items :         | Channel ▲/▼ (on TV or Remote)     |
| Change of the data value :                  | Volume ▲/▼ (on TV or Remote)      |
| Adjustment menu mode ON/OFF :               | MENU button (on TV)               |
| Initialization of the memory (QA02) :       | RECALL+Channel button on TV (▲)   |
| Initialization of the self diagnostic data: | RECALL+Channel button on TV (▼)   |

|                                   |          |
|-----------------------------------|----------|
| "RCUT" selection :                | 1 button |
| "GCUT" selection :                | 2 button |
| "BCUT" selection :                | 3 button |
| "CNTX" selection :                | 4 button |
| "COLC" selection :                | 5 button |
| "TNTC" selection :                | 6 button |
| Convergence adj :                 | 7 button |
| Test audio signal ON/OFF (1kHz) : | 8 button |
| Self diagnostic display ON/OFF :  | 9 button |

#### 4. SELECTING THE ADJUSTING ITEMS

- 1) Every pressing of CHANNEL ▲ button in the service mode changes the adjustment items in the order of table-2.  
(▼ button for reverse order)

Refer to table-2 for preset data of adjustment mode.  
(See SETTING & ADJUSTING DATA on page 19)

## 5. ADJUSTING THE DATA

- 1) Pressing of VOLUME ▲ or ▼ button will cahnge the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

## 6. EXIT FROM SERVICE MODE

- 1) Pressing POWER button to turn off the TV once.

## ■ INITIALIZATION OF MEMORY DATA OF QA02

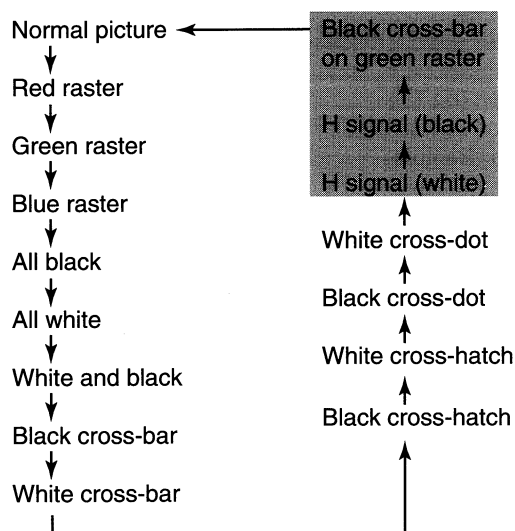
After replacing QA02, the following initialization is required.

1. Enter the service mode, then select any register item.
2. Press and hold the **RECALL** button on the Remote, then press the **CHANNEL ▲** button on the TV. The initialization of QA02 has been completed.
3. Check the picture carefully. If necessary, adjust any adjustment item above.  
Perform "Programming Channel Memory" on the owner's manual.

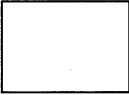
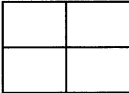
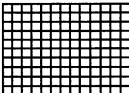
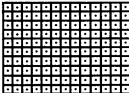
**CAUTION:** Never attempt to initialize the data unless QA02 has been replaced.

## 7. TEST SIGNAL SELECTION

- 1) Every pressing of TV/VIDEO button on the Remote Control in the Service mode, changes the built-in test patterns on screen in the following order.



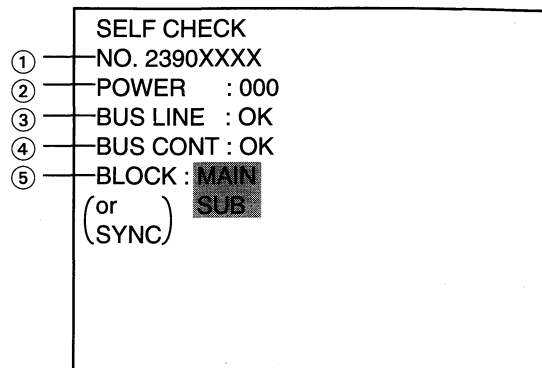
**Note:** If the video cable is connected to the VIDEO1 INPUT jack, the built-in pattern signals are not displayed.

| Signals                                                                                                                                                 | Picture                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Red raster</li> <li>• Green raster</li> <li>• Blue raster</li> <li>• All Black</li> <li>• All White</li> </ul> |   |
| <ul style="list-style-type: none"> <li>• Black &amp; White</li> </ul>                                                                                   |  |
| <ul style="list-style-type: none"> <li>• Black cross-bar</li> <li>• White cross-bar</li> <li>• Black cross-bar on green raster</li> </ul>               |  |
| <ul style="list-style-type: none"> <li>• Black cross-hatch</li> <li>• White cross-hatch</li> </ul>                                                      |  |
| <ul style="list-style-type: none"> <li>• Black cross-dot</li> <li>• White cross-dot</li> </ul>                                                          |  |
| <ul style="list-style-type: none"> <li>• H signal (white)</li> <li>• H signal (black)</li> </ul>                                                        |  |

\* The signals marked with  are not usable to display in the Test signal for some model.

## 8. SELF DIAGNOSTIC FUNCTION

- 1) Press "9" button on Remote Control during display of adjustment menu in the service mode.  
The diagnosis will begin to check if interface among IC's are executed properly.
- 2) During diagnosis, the following displays are shown.



- ① Part number of microprocessor (QA01)
- ② Operation number of protection circuit (current limiter) . . . "000" is normal.
- ③ BUS line check — "OK" . . . . . Normal  
                               "SC-L-GND" or "NG" . . . . . SCL-GND short circuit  
                               "SDA-GND" or "NG" . . . . . SDA-GND short circuit  
                               "SC-L-SDA" or "NG" . . . . . SCL-SDA short circuit
- ④ BUS line ACK (acknowledge) check  
                               "OK" . . . . . Normal  
                               Display of Location Number . . . NG  
                               (Display example)  
                               "QA02 NG", "H001 NG", "Q501 NG" etc.  
                               Note: The indication of failure place is only one place though failure places are plural. When  
                                       repair of a failure place finishes, the next failure place is indicated. (The order of priority of  
                                       indication is left side.)
- ⑤ Sync. signal check — Green display . . . . . Normal  
                                       Cyan display . . . . . No check  
                                       Red display . . . . . NG  

UV . . . . . TV mode  
                               V1 . . . . . VIDEO 1 mode  
                               V2 . . . . . VIDEO 2 mode

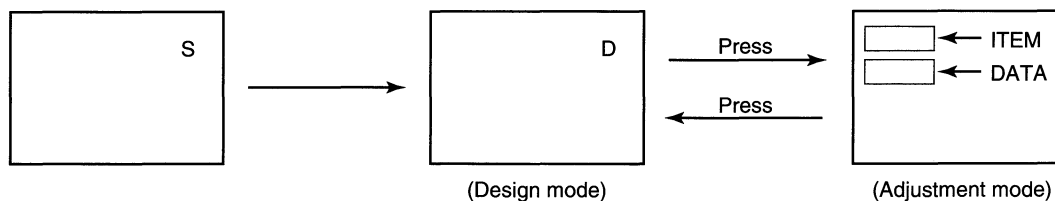
  
                                       MAIN . . . . . Main sync  
                                       SUB . . . . . Sub sync (when turn on the PIP)

\* The item marked with   are not usable to display in the SELF DIAGNOSTIC FUNCTION for some model.

## DESIGN MODE

### 1. ENTERING TO DESIGN MODE

- 1) Select the Service mode.
- 2) While pressing RECALL button on Remote and press MENU button on TV.
- 3) Press MENU button on TV.



When QA02 is initialized, items "OPT0" and "OPT1" of DESIGN MODE are set to the data of the representative model of this chassis family.

Therefore, because ON-SCREEN specification remains in the state of the representative of model. This model is required to reset the data of items "OPT0" and "OPT1".

### 2. SELECTING THE ADJUSTING ITEMS

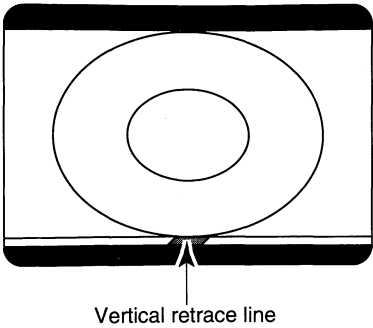
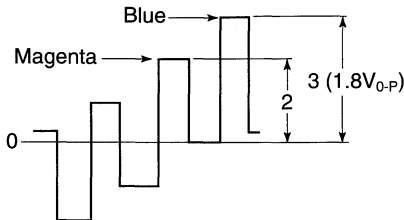
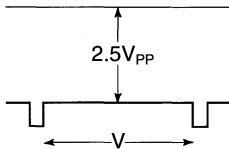
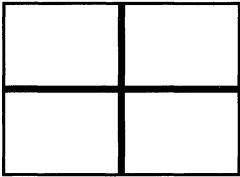
Every pressing of CHANNEL ▼ button in the design mode changes the adjustment items in the order table-3. (▲ button for reverse order)

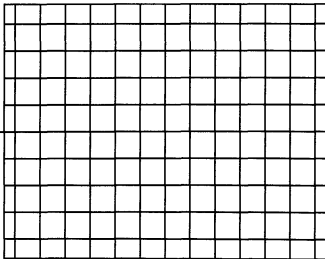
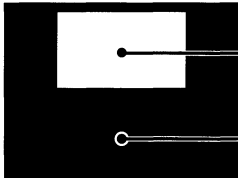
Refer to table-3 for data of design mode.  
(See SETTING & ADJUSTING DATA on page 19)

### 3. ADJUSTING THE DATA

Pressing of VOLUME ▲ or ▼ button will change the value of data.

# ELECTRICAL ADJUSTMENT

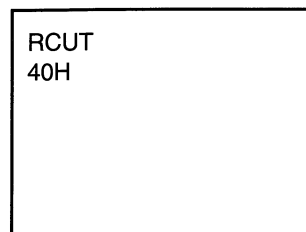
| ITEM                                | ADJUSTMENT PROCEDURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SUB-BRIGHTNESS (BRTC)               | <ol style="list-style-type: none"> <li>1. Constrict the picture height until the vertical retrace line appears adjusting the HEIGHT control on the MAIN board.</li> <li>2. Adjust the CONTRAST to the minimum and BRIGHTNESS to the center.</li> <li>3. Enter the service mode, then select "BRTC" register.</li> <li>4. Adjust the data value so the belt of vertical retrace line just disappear.</li> <li>5. Adjust the HEIGHT control.</li> </ol> <p>* Adjust the SUB-BRIGHTNESS after adjusting the WHITE BALANCE.</p>                                                                                                                                                                                               |
| SUB-COLOR (SCOL)<br>SUB-TINT (TNTC) | <ol style="list-style-type: none"> <li>1. Receive color-bar signal from color-bar generator.</li> <li>2. Adjust the BRIGHTNESS and CONTRAST to the center (RESET status).</li> <li>3. Connect oscilloscope to TP501 on the MAIN board.</li> <li>4. Enter the service mode, then select "SCOL".</li> <li>5. Temporarily adjust the data value to achieve about 1V<sub>0-p</sub> of blue bar.</li> <li>6. Select "TNTC" register.</li> <li>7. Adjust the data value to obtain the blue bar to magenta bar ratio of 3:2 as shown.</li> <li>8. Select "SCOL" register.</li> <li>9. Adjust the data value to achieve 1.8V<sub>0-p</sub> of blue bar on scope.</li> <li>10. Check the picture with off-air signal.</li> </ol>  |
| SUB-CONTRAST (SCNT)                 | <ol style="list-style-type: none"> <li>1. Adjust the BRIGHTNESS and CONTRAST to normal mode(RESET).</li> <li>2. Enter the service mode, then select "SCNT" register.</li> <li>3. Press the TV/VIDEO button on remote control until the black cross-bar pattern appears on the screen.</li> <li>4. Measure TP-501 on V/C/D board, and adjust "SCNT" level to black cross-bar level is 2.5V (pp).</li> <li>5. Check the picture with off-air signal.</li> </ol>                                                                                                                                                                                                                                                           |
| PICTURE POSITION                    | <ol style="list-style-type: none"> <li>1. Call up the adjustment mode display.</li> <li>2. Press the TV/VIDEO button until the white cross-bar or black cross-bar pattern appears on the screen.</li> <li>3. Adjust the picture position alternately by turning CENTERING MAGNETS for proper picture position.</li> <li>4. Check the picture with off-air signal.</li> </ol>                                                                                                                                                                                                                                                                                                                                            |
| HEIGHT (HIT)                        | <ol style="list-style-type: none"> <li>1. Call up the adjustment mode display, then select the item HIT.</li> <li>2. Press the VOLUME ▲ or ▼ button to get the picture so the top of raster begins to lack.</li> <li>3. Press the VOLUME ▲ button to advance the data by 8 steps.</li> </ol> <p>Note : Check the vertical picture position is correct.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| WIDTH (WID)                         | <ol style="list-style-type: none"> <li>1. Call up the adjustment mode display, then select the item WID.</li> <li>2. Press the VOLUME ▲ or ▼ button to get the picture so the left and right edges of raster begins to lack.</li> <li>3. Press the VOLUME ▲ or ▼ button to advance the data by 7 steps.</li> </ol> <p>Note : Check the horizontal picture position is correct.</p>                                                                                                                                                                                                                                                                                                                                                                                                                           |

| ITEM                                                            | ADJUSTMENT PROCEDURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VERTICAL LINEARITY<br>(VLIN)                                    | <ol style="list-style-type: none"> <li>1. Call up the adjustment mode display, then select the item <b>VLIN</b>.</li> <li>2. Press the TV/VIDEO button on Remote until the cross-hatch pattern appears on the screen.</li> <li>3. Press the VOLUME ▲ or ▼ button to obtain the picture of the best linearity.</li> <li>4. Then readjust the item HIT.</li> </ol> <div data-bbox="987 281 1409 537">  <p>Center</p> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| WHITE BALANCE<br>(RCUT)<br>(GCUT)<br>(BCUT)<br>(RDRV)<br>(BDRV) | <ol style="list-style-type: none"> <li>1. Press RESET button on TV or remote hand set.</li> <li>2. Select Video 3 mode. (Don't put any signal in Video 3 jack.)</li> <li>3. Call up the adjustment mode display, then adjust the data of items <b>RCUT</b>, <b>GCUT</b> and <b>BCUT</b> to "40".</li> <li>4. Press TV (ANT)/VIDEO button on TV.</li> <li>5. Gradually rotate R, G and B SCREEN volume of FOCUS PAC (page 7) clockwise or counterclockwise until the raster appears slightly on the CRT through the each lens, and leave them.<br/>(Look into the lens in order to check the raster.)</li> <li>6. Press TV (ANT)/VIDEO button on TV again.</li> <li>7. Exit from service mode, and adjust the contrast to the minimum and brightness to the maximum.</li> <li>8. Call up the adjustment mode and press the TV (ANT)/VIDEO button on Remote until the Black &amp; White pattern appears on the screen.</li> <li>9. Adjust the data of items <b>RCUT</b>, <b>GCUT</b> and <b>BCUT</b> for low light area.</li> <li>10. Adjust the data of items <b>RDRV</b> and <b>BDRV</b> Controls for proper white-balanced picture in high light area.</li> <li>11. Check the white balance in both low and high light areas. If necessary, perform again steps from 7 to 9.</li> </ol> <div data-bbox="586 1176 821 1352">  </div> <div data-bbox="883 1213 1438 1352"> <p>High light area<br/>Adjust "RDRV" or "BDRV" to be white.</p> <p>Low light area<br/>Fine adjust "RCUT", "GCUT" or "BCUT" to be black.</p> </div> |

# CONVERGENCE ADJUSTMENT

Adjust convergence from center to circumference in order.

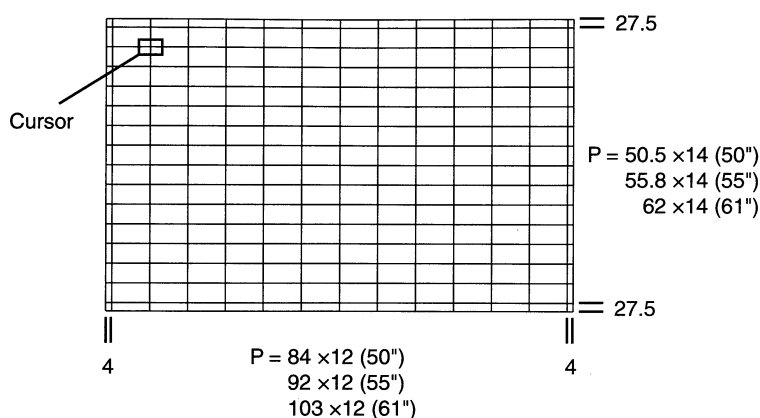
1. Select the adjustment mode following the steps on page 9.



## KEY FUNCTION IN THE CONVERGENCE ADJUSTMENT:

|                            |                    |
|----------------------------|--------------------|
| Up :                       | 2 button           |
| Selet Green color:         | 3 button           |
| Left :                     | 4 button           |
| Blinking of cursor ON/OFF: | 5 button           |
| Right:                     | 6 button           |
| Adjust mode ON/OFF:        | 7 button           |
| Down:                      | 8 button           |
| Erase Green line:          | 0 button           |
| Erase Red line:            | 100 button         |
| Erase Blue line:           | CHRTN (ENT) button |

2. Press "7" button to display the built-in cross-hatch pattern.



## Note:

Adjusting procedure in replacing convergence board.

1. User convergence center check. Make sure the best convergence setting is about the center of adjustable range.
2. CENTERING ADJUSTMENT
3. PICTURE POSITION ADJUSTMENT
4. HIT, WID ADJUSTMENT
5. CONVERGENCE ADJUSTMENT

The pattern includes three colors (R, G, B).

The cursor should be blinking in Red.

This means that the Red color is adjustable.

Adjustment around cursor can be done.

3. Press "3" button to select Green color to be adjusted.
4. Press "5" button to stop the blinking of cursor.
5. Press "2 (up)", "8 (down)", "4 (left)" or "6 (right)" to obtain the correct cross-hatch pattern as above.  
If necessary, the specified color line can be erased from the screen.  
100 button ..... to erase Red line  
0 button ..... to erase Green line  
RTN (ENT) button ..... to erase Blue line
6. Press "5" button to make the cursor blinking.
7. Press "2", "8", "4", "6" buttons to move the cursor to other point to be adjusted.
8. Repeat steps 4 to 7.
9. Repeat steps 3 to 8 to adjust Red and Blue colors.  
Converge the selected color line into the Green line.
10. Press "7" button to enter the adjusted states.  
At this time, picture changes for about 1 second.
11. Press "7" button again to return to the normal picture.

**NOTES**

In many cases, color misconvergence may be corrected by returning HIT and WID data in main deflection side to initial adjusting values. Following cases will surely require readjustment of convergence.

**CRT REPLACEMENT**

When CRT is replaced, main deflection readjustment and color matching are required.

Perform following procedures.

1. Replace two CRT's of blue and red.
2. Perform horizontal adjustment for blue and red yokes on base of green CRT data. Mount yoke and velocity mod. coil alignment, pushing towards CRT without gap.
3. Adjust alignment of blue and red. (Refer Alignment adjustment for details.)
4. Rotating centering magnet, adjust CRT centers of red and blue to CRT center of green.  
(Picture position adjustment)
5. Adjust HIT and WID data of main deflection, and decide data at the most precise screen comparing to green data.
6. Adjust convergence of each screen picture for color matching. Do not move green one at this time.
7. After convergence adjustment of each screen picture finishes, replace green CRT.  
For green CRT as well, repeat steps 2 to 5 above on bases of red and blue color matching to adjust convergence.

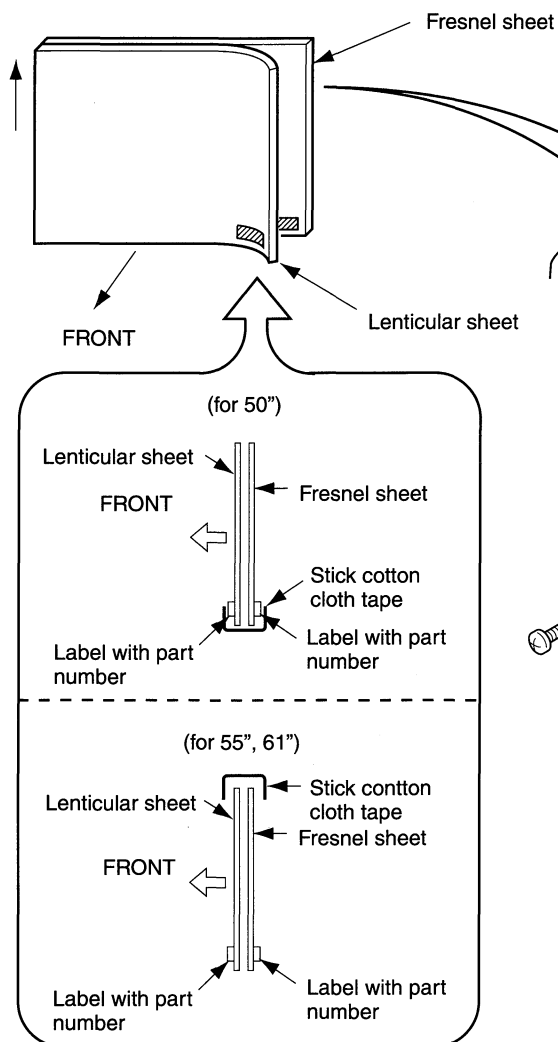
**REPLACING CONVERGENCE UNIT**

When replacing convergence unit, all picture screens require readjustment basically, but the following method allows process be reduced considerably.

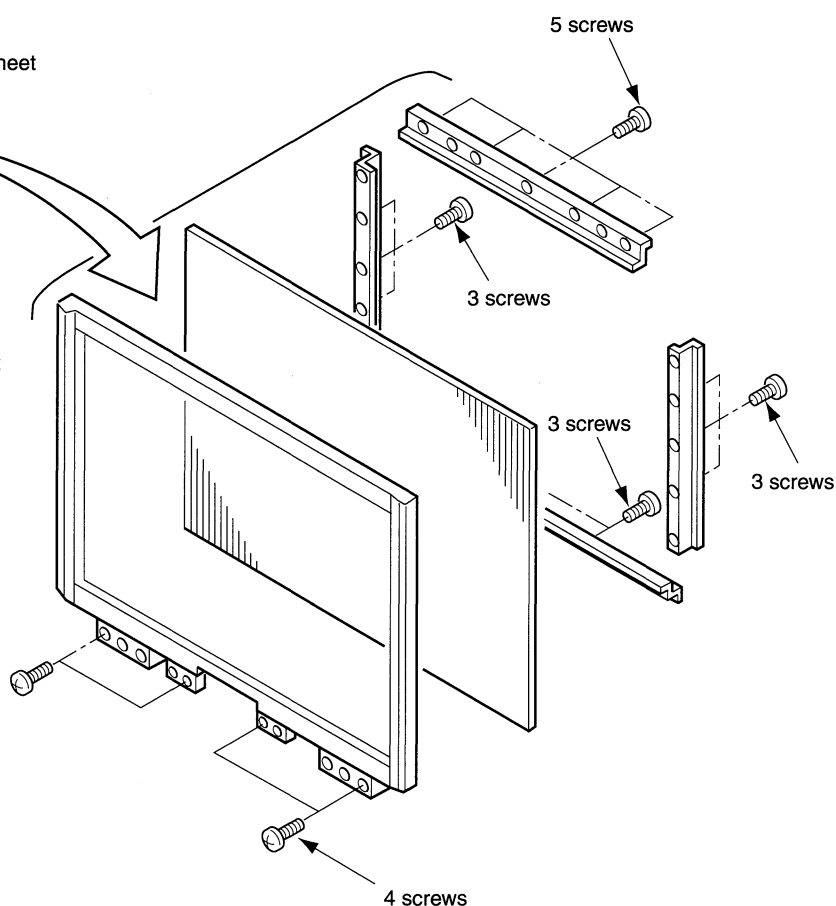
1. Replace the memory (Q713) on defective unit with memory on new unit. Mounting the unit on the SET after the above working realizes picture screen before replacement immediately.
2. Mount unit which has combination of old and new memories, on SET and turn it on. Screen shows whole picture looks like straightly shifted towards vertical or horizontal direction.
3. Adjust again centers of green, red and blue with centering magnets.
4. Check each picture screen for slight disparity of color and picture size. If necessary, add some adjustments of main deflection and color matching of convergence.

## SCREEN AND MIRROR ALIGNMENTS

### ASSEMBLING OF FRONT SCREEN



### MOUNTING OF FRONT SCREEN



\* Please refer to Mechanical Disassembly on page 25.

**CAUTION :** Do not hold the optical system parts (lens and mirror) with bare hand to avoid finger-prints on the surface of those parts.

### HOW TO CLEAN LENS AND MIRROR

1. Be sure to remove sand dust with an air brush, etc.
  2. When it is stained slightly, breathe upon it and wipe away with the specified cleaning cloth.
- For other stains than the above, wipe the stains away with the specified cloth into which a cleaning liquid has been soaked.

Cleaning liquid..... **LENS LUSTER** (Manufactured by Edmund Scientific Co.), etc.

### HOW TO CLEAN SCREEN

When cleaning the screen, use a soft cloth so as not to damage the screen.

1. Wipe the screen with a dry cloth to remove moisture on the screen.

**Note :** Absolutely do not use detergent, water, alcohol, benzene, thinner, etc. for cleaning in order not to wipe away the black print on the surface.

## CIRCUIT CHECKS

### HIGH VOLTAGE CHECK

**CAUTION:** There is no HIGH VOLTAGE ADJUSTMENT on this chassis. Checking should be done following the steps below.

1. Connect an accurate high voltage meter to the anode of the picture tube.
2. Turn on the receiver. Set the BRIGHTNESS and CONTRAST to minimum (zero beam current).
3. High voltage must be measured below (B) kV.

Refer to table-1 for high voltage (B).

(See SETTING & ADJUSTING DATA on page 19)

4. Vary the BRIGHTNESS to both extremes to be sure the high voltage does not exceed the limit under any conditions.

### CAUTION:

When the following parts fail, check the High Voltage after replacing.

| Location No. | Name           | Name                |
|--------------|----------------|---------------------|
| T461         | Flyback Trans. | TFB3078ZD           |
| D489         | Zener Diode    | MTZJ3.6B            |
| Q480         | Transistor     | 2SC2023             |
| Q483         | IC             | TA7508P(J)          |
| R435         | Resistor       | 33k ohm, $\pm 5\%$  |
| R489         | Resistor       | 3.3k ohm, $\pm 5\%$ |
| R490         | Resistor       | 3.3k ohm, $\pm 5\%$ |
| R450         | VR             | 1k ohm              |
| C440         | Capacitor      | 1000pF, $\pm 3\%$   |
| C443         | Capacitor      | 6800pF, $\pm 3\%$   |
| C444         | Capacitor      | 5100pF, $\pm 3\%$   |

### ANODE VOLTAGE MEASURING METHOD

**CAUTION:** Take extra precaution when measuring this high voltage. High voltages are also present in surrounding circuit boards (CRT DRIVE assembly, DEFLECTION assembly, and POWER SUPPLY assembly).

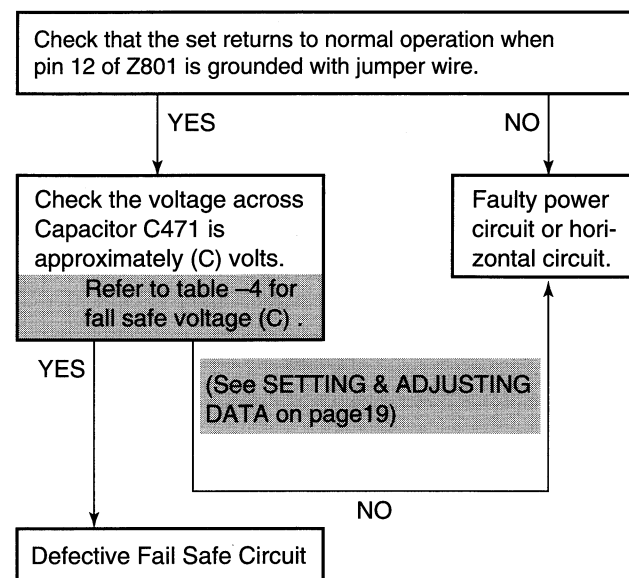
1. Disconnect the FBT anode cable as outlined below. Measure high voltage at the point where the cable enters the FBT.
2. Holding the rubber cover firmly, turn it counterclockwise and check that the lock has been disengaged. (See Fig. b on page 8.)
3. Determine the extent of the rubber cover before disconnecting the cable.
4. Pull straight up the anode cable to disconnect.
5. When reconnecting the cable, proceed in the reverse order. After reconnecting, tug on the cable to check that it is secure.

### FS CIRCUIT CHECK

The Fail Safe (FS) circuit check is indispensable for the final check in servicing. Checking should be done following the steps below.

1. Turn the receiver on.
2. Temporarily short TP- (R) and TP- (X) on the MAIN Board with a jumper wire.  
Raster and sound will disappear.
3. The receiver must remain in this state even after removing the jumper wire. This is the evidence that the FS circuit is functioning properly.
4. To obtain a picture again, temporarily turn the receiver off and allow the FS circuit more than 5 seconds to reset. Then turn the receiver on to produce a normal picture.

### Troubleshooting Guide for Fail Safe Circuit



## CHAPTER 2 SPECIFIC INFORMATION

### SETTING & ADJUSTING DATA

#### 【SAFETY INSTRUCTIONS】

|                            |     |         |
|----------------------------|-----|---------|
|                            |     | 50"     |
| HIGH VOLTAGE AT ZERO BEAM: | (A) | 30.7 kV |
| MAX HIGH VOLTAGE:          | (B) | 32.5 kV |

Table-1

#### 【SERVICE MODE】

##### ADJUSTING ITEMS AND DATA IN THE SERVICE MODE:

| Item | Name of adjustment | Preset | 50V61 | 50V51 | Item | Name of adjustment | Preset | 50V61 | 50V51 |
|------|--------------------|--------|-------|-------|------|--------------------|--------|-------|-------|
| RCUT | R CUTOFF           | 40H    | ←     | ←     | PARA | E-W PARABOLA (DPC) | 05H    | ←     | ←     |
| GCUT | G CUTOFF           | 40H    | ←     | ←     | CNR  | E-W CORNER         | 00H    | ←     | ←     |
| BCUT | B CUTOFF           | 40H    | ←     | ←     | TRAP | TRAPEZIUM          | 08H    | ←     | ←     |
| GDRV | G DRIVE            | 40H    | ←     | ←     | PCOL | PIP COLOR          | 19H    | ←     | ←     |
| BDRV | B DRIVE            | 40H    | ←     | ←     | PHUE | PIP TINT           | 40H    | ←     | ←     |
| SCNT | SUB-CONTRAST       | 10H    | ←     | ←     | PCNT | PIP CONT           | 12H    | ←     | ←     |
| BRTC | SUB-BRIGHT         | 80H    | ←     | ←     | PYOF | PIP Y OFFSET       | 07H    | ←     | ←     |
| COLC | SUB-COLOR          | 50H    | ←     | ←     | PIOF | PIP I OFFSET       | 1DH    | ←     | ←     |
| TNTC | SUB-TINT           | 44H    | ←     | ←     | PQOF | PIP Q OFFSET       | 1DH    | ←     | ←     |
| CNTX | SUB CONT MAX       | 7FH    | ←     | ←     | GMPS | GMPS               | 00H    | ←     | ←     |
| SCOL | SUB COLOR          | 05H    | ←     | ←     | VPS  | V-SHIFT            | 15H    | ←     | ←     |
| HPOS | HORIZ. POSITION    | 11H    | ←     | ←     | VCP  | V-COMPENSATE       | 02H    | ←     | ←     |
| VPOS | VERT. POSITION     | 04H    | ←     | ←     | HCP  | H-COMPENSATE       | 02H    | ←     | ←     |
| HIT  | HEIGHT             | 4DH    | ←     | ←     | VFC  | V-F CORRECT        | 0FH    | ←     | ←     |
| LIN  | V-LINEARITY        | 12H    | ←     | ←     | DRHP | PIP 1/9H START     | 00H    | ←     | ←     |
| VSC  | V-S CORRECTION     | 08H    | ←     | ←     | DRVP | PIP 1/16H START    | 00H    | ←     | ←     |
| WID  | PICTURE WIDTH      | 25H    | 23H   | ←     |      |                    |        |       |       |

Table-2

#### 【DESIGN MODE】

##### ADJUSTING ITEMS AND DATA IN THE DESIGN MODE:

| Item | Name of adjustment | Preset Data | Data  |       | Remarks |
|------|--------------------|-------------|-------|-------|---------|
|      |                    |             | 50V61 | 50V51 |         |
| OPT0 | OPTION 0           | 00H (18H)   | 00H   | 18H   |         |
| OPT1 | OPTION 1           | 00H (01H)   | 00H   | 01H   |         |

Table-3

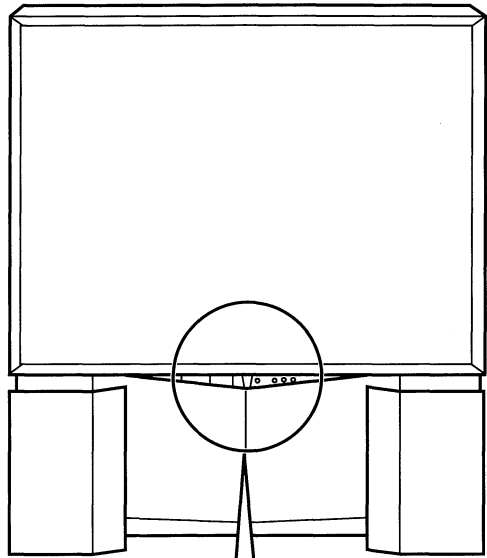
#### 【CIRCUIT CHECKS】

|                       |     |       |
|-----------------------|-----|-------|
| FBT DETECTION VOLTAGE | (C) | 21.8V |
|-----------------------|-----|-------|

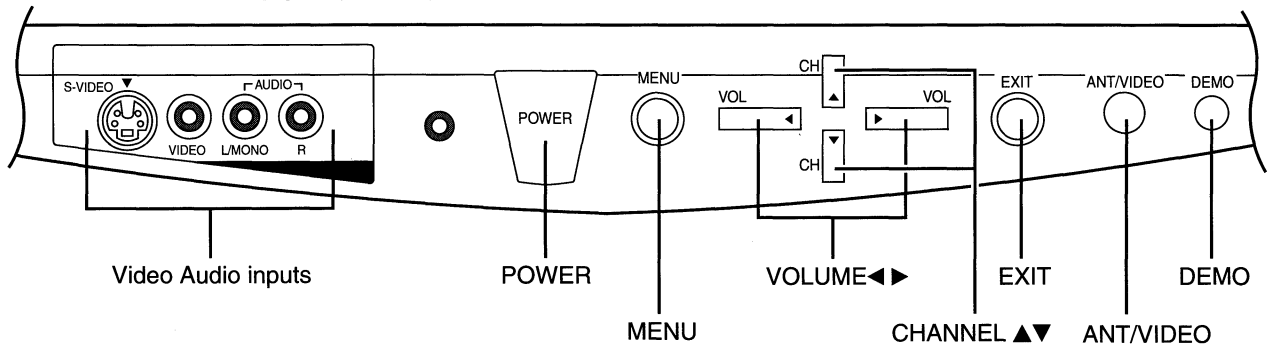
Table-4

## LOCATION OF CONTROLS (Representative : TZ50V61)

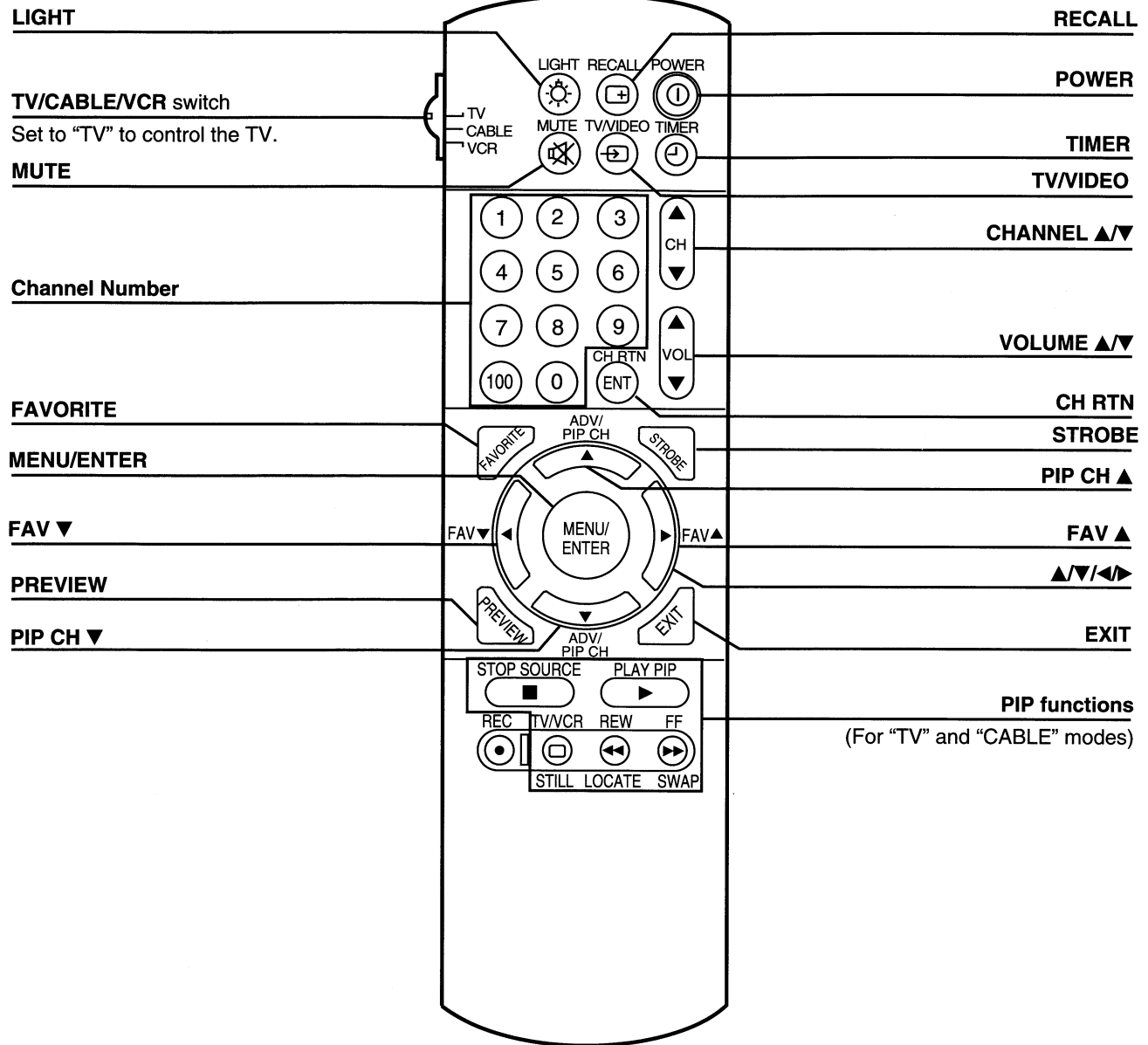
TV front



Behind the door



## Remote Control



## PROGRAMMING CHANNEL MEMORY

The channel memory is the list of TV channel numbers the TV tunes in when you press the CHANNEL ▲ or ▼ button.

**First, use the TV/CABLE and CH PROGRAM functions to preset all active channels in your area automatically.**

If necessary, arrange the preset channels with the ADD/ERASE functions so that you can tune into only desired channels.

**Note:** If you utilize both ANT-1 and ANT-2 terminals for some model, perform programming channels for each input source.

### TV/CABLE function

- 1** Press **MENU**, then press ► or ◀ until the SET UP menu appears.
- 2** Press ▼ (or ▲) until "TV/CABLE" is highlighted.
- 3** Press ► or ◀ to highlight either "TV" or "CABLE", whichever you use.

### CH PROGRAM function

- 1** Select "CH PROGRAM" following steps 1 and 2 above.
- 2** Press ► or ◀ to start channel programming.  
The TV will automatically cycle through all the TV or CABLE channels selected by the TV/CABLE function, and store active channels in the channel memory.
- 3** When channel programming is complete, you will see the message to the right appears.
- 4** Press **CHANNEL ▲** or **▼** to make sure the channel programming has been done properly.

### ADD/ERASE function

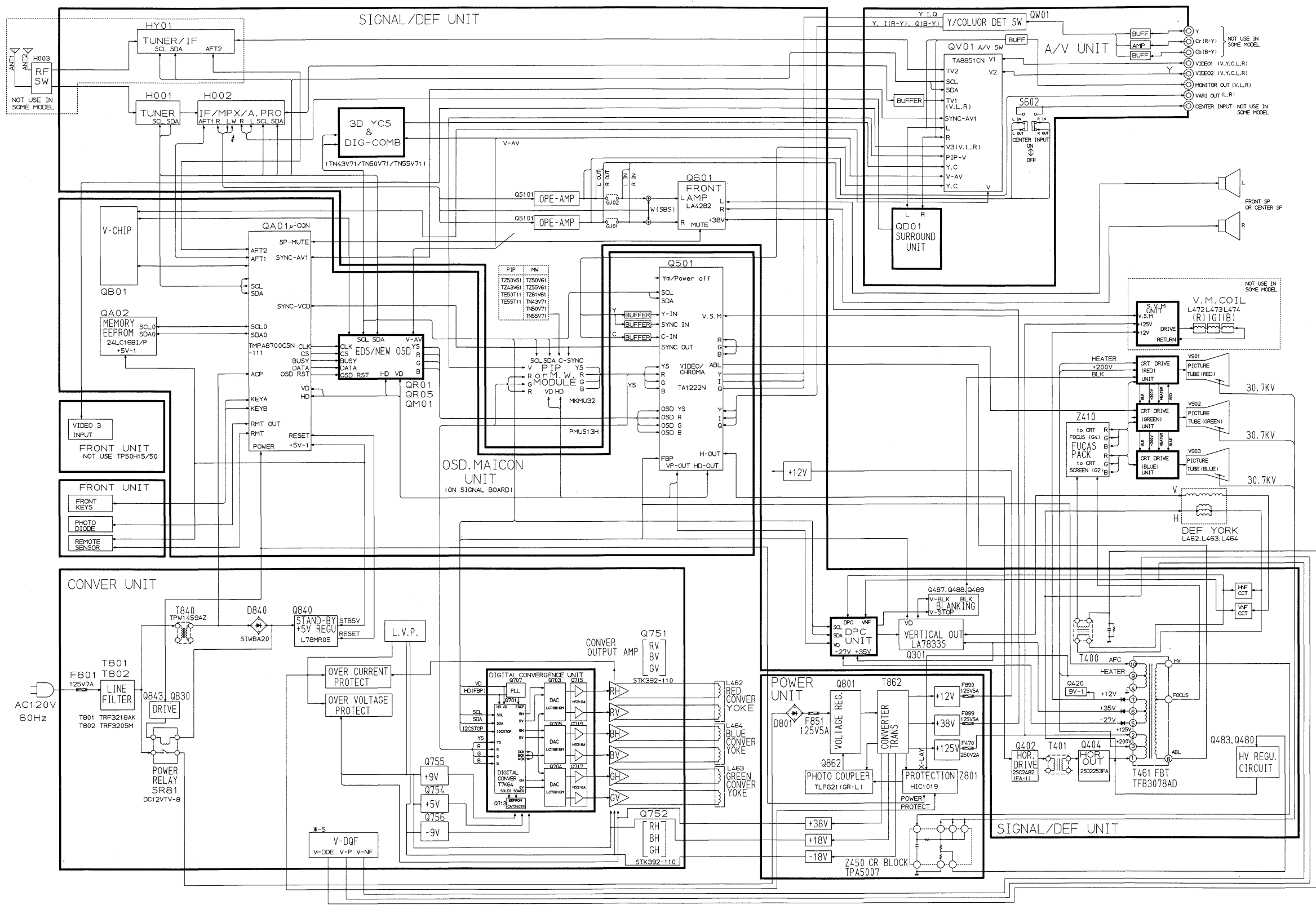
After performing the CH PROGRAM function, you can add or erase specific channels.

- 1** Select the channel you want to erase using the **CHANNEL ▲** or **▼** button, or select the channel you want to add using the **Channel Number** buttons.
- 2** Press **MENU**, then press ► or ◀ until the SET UP menu appears.
- 3** Press ▼ (or ▲) until "ADD/ERASE" is highlighted.
- 4** Press ► or ◀ :  
**To erase the channel** press the button until "ERASE" is highlighted.  
**To add the channel** press the button until "ADD" is highlighted.
- 5** Repeat steps 1 to 4 for other channels.

You have now completed the channel programming.

**Note:** The CHANNEL ▼/▲ buttons on the TV function as the ▼/▲ buttons while a menu is on the screen.

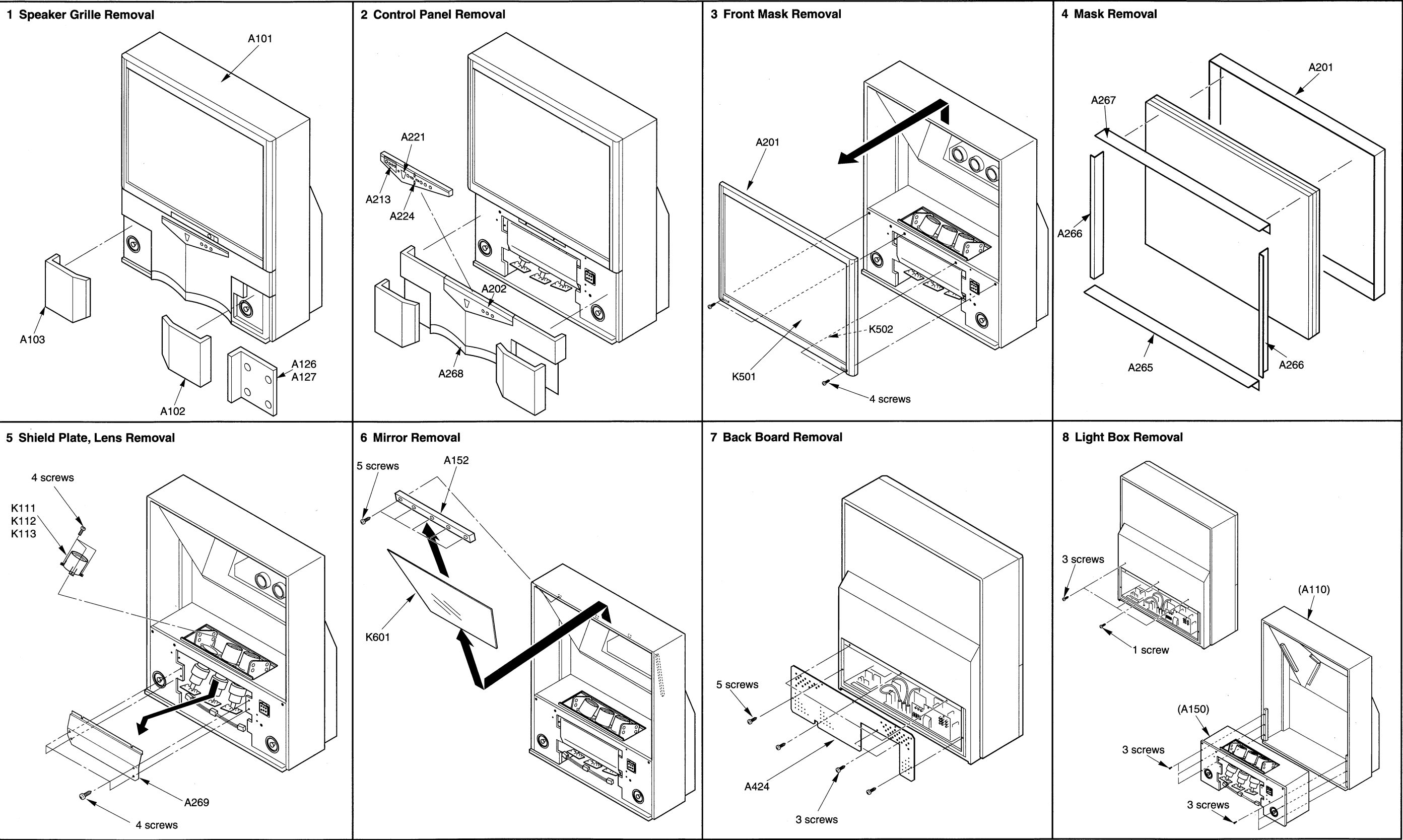
CIRCUIT BLOCK DIAGRAM



\* GJ01, GJ02 OPEN -- OTHER \* -5 VERTICAL DYNAMIC FOCUS -- NOT USE IN TZ50V61/TZ50V51  
SHORT -- TZ50V51/TE50T11/TE55T11

TZ50V51  
BLOCK DIAGRAM TZ50V61  
PK2910

MECHANICAL DISASSEMBLY



# CHASSIS REPLACEMENT PARTS LIST

**WARNING:** BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL.

**CAUTION:** The international hazard symbols " $\Delta$ " in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE. Do not degrade the safety of the receiver through improper servicing.

**NOTICE:**

- The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.
- The PC board assembly with \* mark is no longer available after the end of the production.

**Models : TZ50V61/TZ50V51**

Capacitors ..... CD : Ceramic Disk      PF : Plastic Film      EL : Electrolytic  
Resistors ..... CF : Carbon Film      CC : Carbon Composition      MF : Metal Film  
                         OMF : Oxide Metal Film      VR : Variable Resistor      FR : Fusible Resistor  
(All CD and PF capacitors are  $\pm 5\%$ , 50V and all resistors,  $\pm 5\%$ , 1/6W unless otherwise noted.)

| Location No.      | Part No. | Description                                 |
|-------------------|----------|---------------------------------------------|
| <b>CAPACITORS</b> |          |                                             |
| C101              | 24796339 | EL, 3.3 $\mu$ F, $\pm 20\%$ , 35V           |
| C104              | 24793331 | EL, 330 $\mu$ F, 10V                        |
| C105              | 24474102 | CD, 1000pF, $\pm 10\%$                      |
| C106              | 24797479 | EL, 4.7 $\mu$ F, $\pm 20\%$ , 50V           |
| C107              | 24763221 | EL, 220 $\mu$ F, $\pm 20\%$ , 16V           |
| C111              | 24763221 | EL, 220 $\mu$ F, $\pm 20\%$ , 16V           |
| C112              | 24474102 | CD, 1000pF, $\pm 10\%$ (TZ50V61)            |
| C113              | 24793101 | EL, 100 $\mu$ F, $\pm 20\%$ , 10V (TZ50V61) |
| C114              | 24763221 | EL, 220 $\mu$ F, $\pm 20\%$ , 16V (TZ50V61) |
| C201              | 24794100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V            |
| C203              | 24567104 | PF, 0.1 $\mu$ F                             |
| C204              | 24797010 | EL, 1 $\mu$ F, $\pm 20\%$ , 50V             |
| C205              | 24206229 | EL, 2.2 $\mu$ F, 50V                        |
| C206              | 24794100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V            |
| C207              | 24436390 | CD, 39pF                                    |
| C208              | 24436390 | CD, 39pF                                    |
| C209              | 24436390 | CD, 39pF                                    |
| C212              | 24794100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V            |
| C213              | 24567334 | PF, 0.33 $\mu$ F                            |
| C303              | 24214471 | CD, 470pF, $\pm 10\%$ , 500V                |
| C305              | 24617912 | EL, 2.2 $\mu$ F, $\pm 10\%$ , 50V           |
| C306              | 24617858 | EL, 3300 $\mu$ F, $\pm 20\%$ , 35V          |
| C307              | 24693473 | PF, 0.047 $\mu$ F, 100V                     |
| C308              | 24669221 | EL, 220 $\mu$ F, $\pm 20\%$ , 50V           |
| C309              | 24212101 | CD, 100pF, $\pm 10\%$                       |
| C310              | 24669222 | EL, 2200 $\mu$ F, $\pm 20\%$ , 50V          |
| C311              | 24214561 | CD, 560pF, $\pm 10\%$ , 500V                |
| C313              | 24082057 | PF, 0.22 $\mu$ F, 100V                      |
| C314              | 24591103 | PF, 0.01 $\mu$ F                            |
| C315              | 24797229 | EL, 2.2 $\mu$ F, $\pm 20\%$ , 50V           |
| C315              | 24591103 | PF, 0.01 $\mu$ F                            |
| C318              | 24666222 | EL, 2200 $\mu$ F, $\pm 20\%$ , 16V          |
| C319              | 24591102 | PF, 1000pF                                  |
| C320              | 24669101 | EL, 100 $\mu$ F, $\pm 20\%$ , 50V           |
| C321              | 24591183 | PF, 0.018 $\mu$ F                           |
| C322              | 24617912 | EL, 2.2 $\mu$ F, $\pm 10\%$ , 50V           |
| C323              | 24591224 | PF, 0.22 $\mu$ F                            |
| C326              | 24591683 | PF, 0.068 $\mu$ F                           |

| Location No.  | Part No. | Description                         |
|---------------|----------|-------------------------------------|
| C340          | 24666100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V    |
| C344          | 24591102 | PF, 1000pF                          |
| C350          | 24591104 | PF, 0.1 $\mu$ F                     |
| C351          | 24666222 | EL, 2200 $\mu$ F, $\pm 20\%$ , 16V  |
| C352          | 24669229 | EL, 2.2 $\mu$ F, $\pm 20\%$ , 50V   |
| C357          | 24666100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V    |
| C370          | 24669101 | EL, 100 $\mu$ F, $\pm 20\%$ , 50V   |
| C371          | 24668100 | EL, 10 $\mu$ F, $\pm 20\%$ , 35V    |
| C401          | 24567104 | PF, 0.1 $\mu$ F                     |
| C403          | 24591203 | PF, 0.02 $\mu$ F                    |
| C403          | 24828823 | PF, 0.082 $\mu$ F, 200V             |
| C404          | 24797229 | EL, 2.2 $\mu$ F, $\pm 20\%$ , 50V   |
| C413          | 24214821 | CD, 820pF, $\pm 10\%$ , 500V        |
| C415          | 24591392 | PF, 3900pF                          |
| C416          | 24678100 | EL, 10 $\mu$ F, $\pm 20\%$ , 200V   |
| C417          | 24214391 | CD, 390pF, $\pm 10\%$ , 500V        |
| $\Delta$ C418 | 24095883 | PF, 0.015 $\mu$ F, $\pm 3\%$ , 630V |
| C419          | 24095803 | PF, 0.062 $\mu$ F, 400V             |
| C420          | 24666101 | EL, 100 $\mu$ F, $\pm 20\%$ , 16V   |
| $\Delta$ C423 | 24095779 | PF, 0.62 $\mu$ F, 400V              |
| C430          | 24232103 | CD, 0.01 $\mu$ F, $\pm 80\%$ , -20% |
| C431          | 24794101 | EL, 100 $\mu$ F, $\pm 20\%$ , 16V   |
| C439          | 24669010 | EL, 1 $\mu$ F, $\pm 20\%$ , 50V     |
| $\Delta$ C440 | 24082323 | PF, 1000pF, $\pm 3\%$ , 1500V       |
| C443          | 24082348 | PF, 6800pF, $\pm 3\%$ , 1500V       |
| $\Delta$ C444 | 24082287 | PF, 5100pF, $\pm 3\%$ , 1800V       |
| C445          | 24828473 | PF, 0.047 $\mu$ F, 200V             |
| C446          | 24679330 | EL, 33 $\mu$ F, $\pm 20\%$ , 250V   |
| C447          | 24667102 | EL, 1000 $\mu$ F, $\pm 20\%$ , 25V  |
| C448          | 24640908 | EL, 33 $\mu$ F, $\pm 20\%$ , 160V   |
| C460          | 24669331 | EL, 330 $\mu$ F, $\pm 20\%$         |
| C463          | 24212152 | CD, 1500pF, $\pm 10\%$              |
| C464          | 24640872 | EL, 10 $\mu$ F, $\pm 20\%$ , 100V   |
| C465          | 24591332 | PF, 3300pF                          |
| C466          | 24567394 | PF, 0.39 $\mu$ F                    |
| $\Delta$ C467 | 24820153 | PF, 0.15 $\mu$ F, 630V              |
| C468          | 24567474 | PF, 0.47 $\mu$ F                    |
| C470          | 24666220 | EL, 22 $\mu$ F, $\pm 20\%$ , 16V    |
| C471          | 24206479 | EL, 4.7 $\mu$ F, 50V                |
| C472          | 24567474 | PF, 0.47 $\mu$ F                    |
| C473          | 24669229 | EL, 2.2 $\mu$ F, $\pm 20\%$ , 50V   |

| Location No. | Part No. | Description                        |
|--------------|----------|------------------------------------|
| C474         | 24666100 | EL, 10 $\mu$ F, $\pm$ 20%, 16V     |
| C475         | 24820103 | PF, 0.01 $\mu$ F, 630V             |
| C481         | 24567104 | PF, 0.1 $\mu$ F                    |
| C482         | 24591152 | PF, 1500pF                         |
| C483         | 24567224 | PF, 0.22 $\mu$ F                   |
| C484         | 24567104 | PF, 0.1 $\mu$ F                    |
| C485         | 24669101 | EL, 100 $\mu$ F, $\pm$ 20%, 50V    |
| C493         | 24591124 | PF, 0.12 $\mu$ F                   |
| C501         | 24232103 | CD, 0.01 $\mu$ F, +80%, -20%       |
| C502         | 24232103 | CD, 0.01 $\mu$ F, +80%, -20%       |
| C503         | 24763101 | EL, 100 $\mu$ F, $\pm$ 20%, 16V    |
| C504         | 24591222 | PF, 2200pF                         |
| C505         | 24353120 | CD, 12pF                           |
| C508         | 24794100 | EL, 10 $\mu$ F, $\pm$ 20%, 16V     |
| C509         | 24763101 | EL, 100 $\mu$ F, $\pm$ 20%, 16V    |
| C510         | 24763101 | EL, 100 $\mu$ F, $\pm$ 20%, 16V    |
| C511         | 24232103 | CD, 0.01 $\mu$ F, +80%, -20%       |
| C512         | 24206228 | EL, 0.22 $\mu$ F, 50V              |
| C513         | 24232103 | CD, 0.01 $\mu$ F, +80%, -20%       |
| C514         | 24567104 | PF, 0.1 $\mu$ F                    |
| C515         | 24567104 | PF, 0.1 $\mu$ F                    |
| C517         | 24472010 | CD, 1pF                            |
| C520         | 24763101 | EL, 100 $\mu$ F, $\pm$ 20%, 16V    |
| C601         | 24591102 | PF, 1000pF                         |
| C602         | 24591102 | PF, 1000pF                         |
| C603         | 24669100 | EL, 10 $\mu$ F, $\pm$ 20%, 50V     |
| C604         | 24669100 | EL, 10 $\mu$ F, $\pm$ 20%, 50V     |
| C605         | 24667101 | EL, 100 $\mu$ F, $\pm$ 20%, 25V    |
| C606         | 24795101 | EL, 100 $\mu$ F, $\pm$ 20%, 25V    |
| C607         | 24567104 | PF, 0.1 $\mu$ F                    |
| C608         | 24567104 | PF, 0.1 $\mu$ F                    |
| C609         | 24669102 | EL, 1000 $\mu$ F, $\pm$ 20%, 50V   |
| C610         | 24669102 | EL, 1000 $\mu$ F, $\pm$ 20%, 50V   |
| C611         | 24667221 | EL, 220 $\mu$ F, $\pm$ 20%, 25V    |
| C612         | 24794470 | EL, 47 $\mu$ F, $\pm$ 20%, 16V     |
| C664         | 24797479 | EL, 4.7 $\mu$ F, $\pm$ 20%, 50V    |
| C680         | 24669471 | EL, 470 $\mu$ F, $\pm$ 20%, 50V    |
| C681         | 24567104 | PF, 0.1 $\mu$ F                    |
| C682         | 24567104 | PF, 0.1 $\mu$ F                    |
| C690         | 24232103 | CD, 0.01 $\mu$ F, +80%, -20%       |
| C701         | 24781330 | Chip, 33pF, SL                     |
| C702         | 24781330 | Chip, 33pF, SL                     |
| C705         | 24781271 | Chip, 270pF, SL                    |
| C711         | 24203100 | EL, 10 $\mu$ F, $\pm$ 20%, 16V     |
| C714         | 24092293 | Chip, 0.1 $\mu$ F, +80%, -20%, 25V |
| C715         | 24092441 | Chip, 1 $\mu$ F, +80%, -20%, 16V   |
| C716         | 24815822 | Chip, 8200pF, $\pm$ 10%            |
| C717         | 24774470 | Chip, 47pF, CH                     |
| C718         | 24774470 | Chip, 47pF, CH                     |
| C719         | 24794101 | EL, 100 $\mu$ F, $\pm$ 20%, 16V    |
| C720         | 24092293 | Chip, 0.1 $\mu$ F, +80%, -20%, 25V |
| C721         | 24538104 | PF, 0.1 $\mu$ F                    |
| C722         | 24092293 | Chip, 0.1 $\mu$ F, +80%, -20%, 25V |
| C723         | 24774020 | Chip, 2pF, $\pm$ 5%, 50V, CH       |
| C724         | 24092293 | Chip, 0.1 $\mu$ F, +80%, -20%, 25V |
| C725         | 24092293 | Chip, 0.1 $\mu$ F, +80%, -20%, 25V |
| C726         | 24092293 | Chip, 0.1 $\mu$ F, +80%, -20%, 25V |
| C727         | 24092293 | Chip, 0.1 $\mu$ F, +80%, -20%, 25V |
| C728         | 24763221 | EL, 220 $\mu$ F, $\pm$ 20%, 16V    |
| C729         | 24092293 | Chip, 0.1 $\mu$ F, +80%, -20%, 25V |
| C730         | 24538104 | PF, 0.1 $\mu$ F                    |
| C731         | 24766010 | EL, 1.0 $\mu$ F, $\pm$ 20%, 50V    |
| C732         | 24590822 | PF, 8200pF                         |
| C735         | 24092293 | Chip, 0.1 $\mu$ F, +80%, -20%, 25V |

| Location No. | Part No. | Description                               |
|--------------|----------|-------------------------------------------|
| C736         | 24794470 | EL, 47 $\mu$ F, $\pm$ 20%, 16V            |
| C739         | 24092293 | Chip, 0.1 $\mu$ F, +80%, -20%, 25V        |
| C740         | 24092293 | Chip, 0.1 $\mu$ F, +80%, -20%, 25V        |
| C741         | 24794470 | EL, 47 $\mu$ F, $\pm$ 20%, 16V            |
| C742         | 24794470 | EL, 47 $\mu$ F, $\pm$ 20%, 16V            |
| C743         | 24092293 | Chip, 0.1 $\mu$ F, +80%, -20%, 25V        |
| C744         | 24092293 | Chip, 0.1 $\mu$ F, +80%, -20%, 25V        |
| C745         | 24794470 | EL, 47 $\mu$ F, $\pm$ 20%, 16V            |
| C746         | 24794470 | EL, 47 $\mu$ F, $\pm$ 20%, 16V            |
| C747         | 24092293 | Chip, 0.1 $\mu$ F, +80%, -20%, 25V        |
| C748         | 24092293 | Chip, 0.1 $\mu$ F, +80%, -20%, 25V        |
| C749         | 24794470 | EL, 47 $\mu$ F, $\pm$ 20%, 16V            |
| C750         | 24794470 | EL, 47 $\mu$ F, $\pm$ 20%, 16V            |
| C756         | 24781330 | Chip, 33pF, SL                            |
| C761         | 24590182 | PF, 1800pF                                |
| C762         | 24590562 | PF, 5600pF                                |
| C763         | 24774391 | Chip, 390pF                               |
| C765         | 24590182 | PF, 1800pF                                |
| C766         | 24590562 | PF, 5600pF                                |
| C767         | 24774391 | Chip, 390pF                               |
| C769         | 24590182 | PF, 1800pF                                |
| C770         | 24590562 | PF, 5600pF                                |
| C771         | 24774391 | Chip, 390pF                               |
| C773         | 24590182 | PF, 1800pF                                |
| C774         | 24590562 | PF, 5600pF                                |
| C775         | 24774391 | Chip, 390pF                               |
| C777         | 24590182 | PF, 1800pF                                |
| C778         | 24590562 | PF, 5600pF                                |
| C779         | 24774391 | Chip, 390pF                               |
| C781         | 24590182 | PF, 1800pF                                |
| C782         | 24590562 | PF, 5600pF                                |
| C783         | 24774391 | Chip, 390pF                               |
| C795         | 24761221 | EL, 220 $\mu$ F, $\pm$ 20%, 6.3V          |
| C798         | 24763101 | EL, 100 $\mu$ F, $\pm$ 20%, 16V           |
| C799         | 24763101 | EL, 100 $\mu$ F, $\pm$ 20%, 16V           |
| C801         | 24082001 | PF, 0.47 $\mu$ F, $\pm$ 20%, AC125V       |
| C802         | 24082001 | PF, 0.47 $\mu$ F, $\pm$ 20%, AC125V       |
| C805         | 24092623 | CD, 0.01 $\mu$ F, +80%, -20%, AC250V      |
| C806         | 24092623 | CD, 0.01 $\mu$ F, +80%, -20%, AC250V      |
| C810         | 24086067 | EL, 100 $\mu$ F, $\pm$ 20%, 200V          |
| C811         | 24092597 | CD, 4700pF, $\pm$ 20%, AC250V             |
| C812         | 24092597 | CD, 4700pF, $\pm$ 20%, AC250V             |
| C813         | 24092597 | CD, 4700pF, $\pm$ 20%, AC250V             |
| C830         | 24539334 | PF, 0.33 $\mu$ F                          |
| C831         | 24666470 | EL, 47 $\mu$ F, $\pm$ 20%, 16V            |
| C832         | 24539334 | PF, 0.33 $\mu$ F                          |
| C833         | 24666470 | EL, 47 $\mu$ F, $\pm$ 20%, 16V            |
| C834         | 24539334 | PF, 0.33 $\mu$ F (TZ50V61)                |
| C835         | 24666101 | EL, 100 $\mu$ F, $\pm$ 20%, 16V (TZ50V61) |
| C840         | 24667221 | EL, 220 $\mu$ F, $\pm$ 20%, 25V           |
| C842         | 24664101 | EL, 100 $\mu$ F, $\pm$ 20%, 6.3V          |
| C843         | 24567104 | PF, 0.1 $\mu$ F                           |
| C850         | 24668102 | EL, 1000 $\mu$ F, $\pm$ 20%, 35V          |
| C851         | 24214471 | CD, 470pF, $\pm$ 10%, 500V                |
| C852         | 24214471 | CD, 470pF, $\pm$ 10%, 500V                |
| C853         | 24214471 | CD, 470pF, $\pm$ 10%, 500V                |
| C854         | 24214471 | CD, 470pF, $\pm$ 10%, 500V                |
| C855         | 24214471 | CD, 470pF, $\pm$ 10%, 500V                |
| C856         | 24214471 | CD, 470pF, $\pm$ 10%, 500V                |
| C857         | 24667332 | EL, 3300 $\mu$ F, $\pm$ 20%, 25V          |
| C858         | 24667332 | EL, 3300 $\mu$ F, $\pm$ 20%, 25V          |

| Location No. | Part No. | Description            |
|--------------|----------|------------------------|
| C859         | 24669471 | EL, 470μF, ±20%, 50V   |
| C860         | 24214103 | CD, 0.01μF, ±10%, 500V |
| C863         | 24567104 | PF, 0.1μF              |
| C864         | 24092484 | CD, 1500pF, ±10%, 2kV  |
| C865         | 24092482 | CD, 1000pF, ±10%, 2kV  |
| C866         | 24669010 | EL, 1μF, ±20%, 50V     |
| C867         | 24591682 | PF, 6800pF             |
| C868         | 24668470 | EL, 47μF, ±20%, 35V    |
| C869         | 24678229 | EL, 2.2μF, ±20%, 200V  |
| C870         | 24820124 | PF, 0.12μF, 630V       |
| C871         | 24092482 | CD, 1000pF, ±10%, 2kV  |
| C872         | 24435221 | CD, 220pF, 500V        |
| C873         | 24567224 | PF, 0.22μF             |
| C874         | 24435221 | CD, 220pF, 500V        |
| C876         | 24567104 | PF, 0.1μF              |
| C877         | 24092484 | CD, 1500pF, ±10%, 2kV  |
| C878         | 24820104 | PF, 0.1μF, 630V        |
| C879         | 24212101 | CD, 100pF, ±10%        |
| C880         | 24214471 | CD, 470pF, ±10%, 500V  |
| C881         | 24214471 | CD, 470pF, ±10%, 500V  |
| C882         | 24214471 | CD, 470pF, ±10%, 500V  |
| C883         | 24214471 | CD, 470pF, ±10%, 500V  |
| C884         | 24086916 | EL, 330μF, ±20%, 160V  |
| C885         | 24667332 | EL, 3300μF, ±20%, 25V  |
| C886         | 24214471 | CD, 470pF, ±10%, 500V  |
| C887         | 24214471 | CD, 470pF, ±10%, 500V  |
| C888         | 24214471 | CD, 470pF, ±10%, 500V  |
| C889         | 24214471 | CD, 470pF, ±10%, 500V  |
| C890         | 24669222 | EL, 2200μF, ±20%, 50V  |
| C891         | 24082229 | PF, 0.1μF, ±10%, 250V  |
| C892         | 24092338 | CD, 270pF, ±10%, 2kV   |
| C893         | 24092338 | CD, 270pF, ±10%, 2kV   |
| C894         | 24092338 | CD, 270pF, ±10%, 2kV   |
| C895         | 24092338 | CD, 270pF, ±10%, 2kV   |
| C898         | 24212102 | CD, 1000pF, ±10%       |
| C901         | 24211102 | CD, 1000pF, ±10%, 2kV  |
| C902         | 24794100 | EL, 10μF, ±20%, 16V    |
| C903         | 24232103 | CD, 0.01μF, +80%, -20% |
| C904         | 24436102 | CD, 1000pF             |
| C908         | 24214472 | CD, 4700pF, ±10%, 500V |
| C911         | 24211102 | CD, 1000pF, ±10%, 2kV  |
| C912         | 24794100 | EL, 10μF, ±20%, 16V    |
| C913         | 24232103 | CD, 0.01μF, +80%, -20% |
| C914         | 24436102 | CD, 1000pF             |
| C915         | 24679330 | EL, 33μF, ±20%, 250V   |
| C916         | 24794101 | EL, 100μF, ±20%, 16V   |
| C918         | 24794470 | EL, 47μF, ±20%, 16V    |
| C921         | 24211102 | CD, 1000pF, ±10%, 2kV  |
| C922         | 24794100 | EL, 10μF, ±20%, 16V    |
| C923         | 24794470 | EL, 47μF, ±20%, 16V    |
| C924         | 24232103 | CD, 0.01μF, +80%, -20% |
| C926         | 24436102 | CD, 1000pF             |
| C928         | 24214472 | CD, 4700pF, ±10%, 500V |
| C929         | 24794100 | EL, 10μF, ±20%, 16V    |
| C941         | 24797478 | EL, 0.47μF, ±20%, 50V  |
| C943         | 24794102 | EL, 1000μF, ±20%, 16V  |
| C944         | 24203100 | EL, 10μF, ±20%, 16V    |
| C961         | 24666101 | EL, 100μF, ±20%, 16V   |
| C962         | 24203100 | EL, 10μF, ±20%, 16V    |
| C963         | 24232103 | CD, 0.01μF, +80%, -20% |
| C964         | 24232103 | CD, 0.01μF, +80%, -20% |
| C7701        | 24761221 | EL, 220μF, ±20%, 6.3V  |
| C7721        | 24212102 | CD, 1000pF, ±10%       |
| C7722        | 24436101 | CD, 100pF              |

| Location No. | Part No. | Description                       |
|--------------|----------|-----------------------------------|
| C7724        | 24667101 | EL, 100μF, ±20%, 25V              |
| C7725        | 24667101 | EL, 100μF, ±20%, 25V              |
| C7726        | 24212102 | CD, 1000pF, ±10%                  |
| C7727        | 24436101 | CD, 100pF                         |
| C7729        | 24212102 | CD, 1000pF, ±10%                  |
| C7730        | 24436101 | CD, 100pF                         |
| C7732        | 24212102 | CD, 1000pF, ±10%                  |
| C7733        | 24436101 | CD, 100pF                         |
| C7735        | 24667101 | EL, 100μF, ±20%, 25V              |
| C7736        | 24669101 | EL, 100μF, ±20%, 50V              |
| C7737        | 24212102 | CD, 1000pF, ±10%                  |
| C7738        | 24436101 | CD, 100pF                         |
| C7740        | 24212102 | CD, 1000pF, ±10%                  |
| C7741        | 24436101 | CD, 100pF                         |
| C7744        | 24232103 | CD, 0.01μF, +80%, -20%            |
| C7747        | 24667101 | EL, 100μF, ±20%, 25V              |
| C7748        | 24567104 | PF, 0.1μF                         |
| C7749        | 24567104 | PF, 0.1μF                         |
| C7750        | 24667101 | EL, 100μF, ±20%, 25V              |
| C7751        | 24667101 | EL, 100μF, ±20%, 25V              |
| C7752        | 24567104 | PF, 0.1μF                         |
| C7753        | 24567104 | PF, 0.1μF                         |
| C7754        | 24667101 | EL, 100μF, ±20%, 25V              |
| C7755        | 24667101 | EL, 100μF, ±20%, 25V              |
| C7756        | 24567104 | PF, 0.1μF                         |
| C7757        | 24567104 | PF, 0.1μF                         |
| C7758        | 24667101 | EL, 100μF, ±20%, 25V              |
| C7760        | 24667470 | EL, 47μF, ±20%, 25V               |
| C7761        | 24667470 | EL, 47μF, ±20%, 25V               |
| C7762        | 24669100 | EL, 10μF, ±20%, 50V               |
| C7763        | 24667470 | EL, 47μF, ±20%, 25V               |
| C7764        | 24598331 | PF, 330pF                         |
| C7765        | 24669479 | EL, 4.7μF, ±20%, 50V              |
| C7766        | 24669479 | EL, 4.7μF, ±20%, 50V              |
| C7767        | 24667470 | EL, 47μF, ±20%, 25V               |
| C7768        | 24567104 | PF, 0.1μF                         |
| C7769        | 24232103 | CD, 0.01μF, +80%, -20%            |
| C7770        | 24669470 | EL, 47μF, ±20%, 50V               |
| C7771        | 24567103 | PF, 0.01μF                        |
| C7772        | 24667101 | EL, 100μF, ±20%, 25V              |
| C7773        | 24669101 | EL, 100μF, ±20%, 50V              |
| C7774        | 24436331 | CD, 330pF                         |
| C7775        | 24667101 | EL, 100μF, ±20%, 25V              |
| C7776        | 24667470 | EL, 47μF, ±20%, 25V               |
| C7777        | 24669470 | EL, 47μF, ±20%, 50V               |
| C7778        | 24567104 | PF, 0.1μF                         |
| CA13         | 24474221 | CD, 220pF, ±10%                   |
| CA22         | 24474101 | CD, 100pF, ±10%                   |
| CA23         | 24474101 | CD, 100pF, ±10%                   |
| CA24         | 24474101 | CD, 100pF, ±10%                   |
| CA25         | 24474101 | CD, 100pF, ±10%                   |
| CA33         | 24232103 | CD, 0.01μF, +80%, -20%            |
| CA36         | 24474101 | CD, 100pF, ±10%                   |
| CA37         | 24474101 | CD, 100pF, ±10%                   |
| CA38         | 24474101 | CD, 100pF, ±10%                   |
| CA40         | 24567104 | PF, 0.1μF                         |
| CA41         | 24567104 | PF, 0.1μF                         |
| CA42         | 24666100 | EL, 10μF, ±20%, 16V               |
| CA43         | 24232103 | CD, 0.01μF, +80%, -20%            |
| CA44         | 24232103 | CD, 0.01μF, +80%, -20%            |
| CA68         | 24794100 | EL, 10μF, ±20%, 16V               |
| CA69         | 24232103 | CD, 0.01μF, +80%, -20%            |
| CB10         | 24085970 | EL, 10μF, ±20%, 16V,<br>Non-Polar |

| Location No. | Part No. | Description                                 |
|--------------|----------|---------------------------------------------|
| CB11         | 24474101 | CD, 100pF, $\pm 10\%$                       |
| CB11         | 24794470 | EL, 47 $\mu$ F, $\pm 20\%$ , 16V            |
| CB12         | 24794100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V            |
| CB13         | 24085970 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V, Non-Polar |
| CB14         | 24474101 | CD, 100pF, $\pm 10\%$                       |
| CB15         | 24794100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V            |
| CB22         | 24474101 | CD, 100pF, $\pm 10\%$                       |
| CB23         | 24474101 | CD, 100pF, $\pm 10\%$                       |
| CB24         | 24474101 | CD, 100pF, $\pm 10\%$                       |
| CB25         | 24474101 | CD, 100pF, $\pm 10\%$                       |
| CB33         | 24212103 | CD, 0.01 $\mu$ F, $\pm 10\%$                |
| CB40         | 24567104 | PF, 0.1 $\mu$ F                             |
| CB41         | 24567104 | PF, 0.1 $\mu$ F                             |
| CB42         | 24794100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V            |
| CB42         | 24232103 | CD, 0.01 $\mu$ F, $\pm 80\%$ , $-20\%$      |
| CB43         | 24212103 | CD, 0.01 $\mu$ F, $\pm 10\%$                |
| CB44         | 24212103 | CD, 0.01 $\mu$ F, $\pm 10\%$                |
| CB90         | 24567103 | PF, 0.01 $\mu$ F                            |
| CB91         | 24794100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V            |
| CD02         | 24591562 | PF, 5600pF                                  |
| CD03         | 24591393 | PF, 0.039 $\mu$ F                           |
| CD04         | 24591393 | PF, 0.039 $\mu$ F                           |
| CD08         | 24794100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V            |
| CD10         | 24436101 | CD, 100pF                                   |
| CD12         | 24436101 | CD, 100pF                                   |
| CD13         | 24797479 | EL, 4.7 $\mu$ F, $\pm 20\%$ , 50V           |
| CD14         | 24797229 | EL, 2.2 $\mu$ F, $\pm 20\%$ , 50V           |
| CD15         | 24794470 | EL, 47 $\mu$ F, $\pm 20\%$ , 16V            |
| CD16         | 24797229 | EL, 2.2 $\mu$ F, $\pm 20\%$ , 50V           |
| CR01         | 24797010 | EL, 1 $\mu$ F, $\pm 20\%$ , 50V             |
| CR02         | 24212103 | CD, 0.01 $\mu$ F, $\pm 10\%$                |
| CR03         | 24436101 | CD, 100pF                                   |
| CR09         | 24567104 | PF, 0.1 $\mu$ F                             |
| CR10         | 24794470 | EL, 47 $\mu$ F, $\pm 20\%$ , 16V            |
| CR11         | 24567104 | PF, 0.1 $\mu$ F                             |
| CR12         | 24567104 | PF, 0.1 $\mu$ F                             |
| CR13         | 24567104 | PF, 0.1 $\mu$ F                             |
| CR14         | 24567104 | PF, 0.1 $\mu$ F                             |
| CR15         | 24567104 | PF, 0.1 $\mu$ F                             |
| CR16         | 24567104 | PF, 0.1 $\mu$ F                             |
| CR17         | 24567104 | PF, 0.1 $\mu$ F                             |
| CR18         | 24567104 | PF, 0.1 $\mu$ F                             |
| CR19         | 24567104 | PF, 0.1 $\mu$ F                             |
| CR20         | 24567104 | PF, 0.1 $\mu$ F                             |
| CR21         | 24567103 | PF, 0.01 $\mu$ F                            |
| CS03         | 24436221 | CD, 220pF                                   |
| CS04         | 24206010 | EL, 1 $\mu$ F, 50V                          |
| CS07         | 24436221 | CD, 220pF                                   |
| CS08         | 24206010 | EL, 1 $\mu$ F, 50V                          |
| CS09         | 24436331 | CD, 330pF                                   |
| CS10         | 24206229 | EL, 2.2 $\mu$ F, 50V                        |
| CS15         | 24436331 | CD, 330pF                                   |
| CS16         | 24206229 | EL, 2.2 $\mu$ F, 50V                        |
| CS21         | 24436101 | CD, 100pF                                   |
| CS22         | 24436101 | CD, 100pF                                   |
| CS23         | 24206478 | EL, 0.47 $\mu$ F, 50V                       |
| CS24         | 24436331 | CD, 330pF                                   |
| CS25         | 24206229 | EL, 2.2 $\mu$ F, 50V                        |
| CS28         | 24436331 | CD, 330pF                                   |
| CS29         | 24436331 | CD, 330pF                                   |
| CS32         | 24203100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V            |
| CS33         | 24203100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V            |
| CS34         | 24436331 | CD, 330pF                                   |

| Location No. | Part No. | Description                                      |
|--------------|----------|--------------------------------------------------|
| CS35         | 24206229 | EL, 2.2 $\mu$ F, 50V                             |
| CS36         | 24206229 | EL, 2.2 $\mu$ F, 50V                             |
| CS38         | 24206229 | EL, 2.2 $\mu$ F, 50V                             |
| CS41         | 24436331 | CD, 330pF                                        |
| CS42         | 24206229 | EL, 2.2 $\mu$ F, 50V                             |
| CS43         | 24436331 | CD, 330pF                                        |
| CS44         | 24206229 | EL, 2.2 $\mu$ F, 50V                             |
| CS115        | 24206010 | EL, 1 $\mu$ F, 50V                               |
| CS116        | 24206010 | EL, 1 $\mu$ F, 50V                               |
| CS117        | 24747478 | EL, 0.47 $\mu$ F, $\pm 20\%$ , 50V               |
| CS119        | 24206010 | EL, 1 $\mu$ F, 50V                               |
| CS120        | 24232103 | CD, 0.01 $\mu$ F, $\pm 80\%$ , $-20\%$           |
| CS121        | 24206010 | EL, 1 $\mu$ F, 50V                               |
| CV01         | 24203100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V                 |
| CV02         | 24232103 | CD, 0.01 $\mu$ F, $\pm 80\%$ , $-20\%$           |
| CV03         | 24203100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V                 |
| CV04         | 24203100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V                 |
| CV05         | 24203100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V                 |
| CV08         | 24666471 | EL, 470 $\mu$ F, $\pm 20\%$ , 16V                |
| CV09         | 24666471 | EL, 470 $\mu$ F, $\pm 20\%$ , 16V                |
| CV13         | 24794100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V                 |
| CV14         | 24232103 | CD, 0.01 $\mu$ F, $\pm 80\%$ , $-20\%$ (TZ50V61) |
| CV15         | 24232103 | CD, 0.01 $\mu$ F, $\pm 80\%$ , $-20\%$ (TZ50V61) |
| CV16         | 24203100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V                 |
| CV17         | 24203100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V                 |
| CV19         | 24232103 | CD, 0.01 $\mu$ F, $\pm 80\%$ , $-20\%$           |
| CV21         | 24203100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V                 |
| CV22         | 24203100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V                 |
| CV23         | 24232103 | CD, 0.01 $\mu$ F, $\pm 80\%$ , $-20\%$           |
| CV24         | 24232103 | CD, 0.01 $\mu$ F, $\pm 80\%$ , $-20\%$           |
| CV27         | 24202221 | EL, 220 $\mu$ F, $\pm 20\%$ , 10V                |
| CV28         | 24202221 | EL, 220 $\mu$ F, $\pm 20\%$ , 10V                |
| CV29         | 24203101 | EL, 100 $\mu$ F, $\pm 20\%$ , 16V                |
| CV30         | 24232103 | CD, 0.01 $\mu$ F, $\pm 80\%$ , $-20\%$           |
| CV31         | 24203100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V (TZ50V61)       |
| CV38         | 24203101 | EL, 100 $\mu$ F, $\pm 20\%$ , 16V                |
| CV39         | 24212102 | CD, 1000pF, $\pm 10\%$                           |
| CV40         | 24763101 | EL, 100 $\mu$ F, $\pm 20\%$ , 16V                |
| CV41         | 24232103 | CD, 0.01 $\mu$ F, $\pm 80\%$ , $-20\%$           |
| CV42         | 24203330 | EL, 33 $\mu$ F, $\pm 20\%$ , 16V                 |
| CV44         | 24436470 | CD, 47pF                                         |
| CV45         | 24436220 | CD, 22pF                                         |
| CV46         | 24232103 | CD, 0.01 $\mu$ F, $\pm 80\%$ , $-20\%$           |
| CV48         | 24763101 | EL, 100 $\mu$ F, $\pm 20\%$ , 16V                |
| CV49         | 24232103 | CD, 0.01 $\mu$ F, $\pm 80\%$ , $-20\%$           |
| CV61         | 24232103 | CD, 0.01 $\mu$ F, $\pm 80\%$ , $-20\%$           |
| CV64         | 24206100 | EL, 10 $\mu$ F, 50V                              |
| CV65         | 24591122 | PF, 1200pF                                       |
| CV66         | 24436561 | CD, 560pF                                        |
| CV67         | 24591102 | PF, 1000pF                                       |
| CV68         | 24206010 | EL, 1 $\mu$ F, 50V                               |
| CW02         | 24203100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V                 |
| CW03         | 24203100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V                 |
| CW04         | 24591822 | PF, 8200pF                                       |
| CW04         | 24203100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V                 |
| CW05         | 24212103 | CD, 0.01 $\mu$ F, $\pm 10\%$                     |
| CW07         | 24666470 | EL, 47 $\mu$ F, $\pm 20\%$ , 16V                 |
| CW07         | 24203100 | EL, 10 $\mu$ F, $\pm 20\%$ , 16V                 |
| CW08         | 24794101 | EL, 100 $\mu$ F, $\pm 20\%$ , 16V                |
| CW08         | 24794101 | EL, 100 $\mu$ F, $\pm 20\%$ , 16V                |
| CW09         | 24232103 | CD, 0.01 $\mu$ F, $\pm 80\%$ , $-20\%$           |
| CW09         | 24232103 | CD, 0.01 $\mu$ F, $\pm 80\%$ , $-20\%$           |

| Location No.     | Part No. | Description                      |
|------------------|----------|----------------------------------|
| CW12             | 24666470 | EL, 47 $\mu$ F, $\pm$ 20%, 16V   |
| CW13             | 24790100 | EL, 10 $\mu$ F, $\pm$ 20%, 160V  |
| CW14             | 24436101 | CD, 100pF                        |
| CW15             | 24214472 | CD, 4700pF, $\pm$ 10%, 500V      |
| CW16             | 24436101 | CD, 100pF                        |
| CW17             | 24214472 | CD, 4700pF, $\pm$ 10%, 500V      |
| CW18             | 24666470 | EL, 47 $\mu$ F, $\pm$ 20%, 16V   |
| CW19             | 24435560 | CD, 56pF, 500V                   |
| CW20             | 24790100 | EL, 10 $\mu$ F, $\pm$ 20%, 160V  |
| CW21             | 24666470 | EL, 47 $\mu$ F, $\pm$ 20%, 16V   |
| CW22             | 24436561 | CD, 560pF                        |
| CW26             | 24212102 | CD, 1000pF, $\pm$ 10%            |
| CY01             | 24793471 | EL, 470 $\mu$ F, $\pm$ 20%, 10V  |
| CY40             | 24206100 | EL, 10 $\mu$ F, 50V              |
| CZ01             | 24797478 | EL, 0.47 $\mu$ F, $\pm$ 20%, 50V |
| CZ02             | 24794101 | EL, 100 $\mu$ F, $\pm$ 20%, 16V  |
| CZ03             | 24092398 | CD, 0.1 $\mu$ F, +80%, -20%      |
| CZ04             | 24476103 | CD, 0.01 $\mu$ F, $\pm$ 30%, 16V |
| CZ05             | 24476103 | CD, 0.01 $\mu$ F, $\pm$ 30%, 16V |
| CZ06             | 24476103 | CD, 0.01 $\mu$ F, $\pm$ 30%, 16V |
| CZ07             | 24794101 | EL, 100 $\mu$ F, $\pm$ 20%, 16V  |
| CZ09             | 24567103 | PF, 0.01 $\mu$ F                 |
| CZ11             | 24567103 | PF, 0.01 $\mu$ F                 |
| CZ12             | 24474181 | CD, 180pF, $\pm$ 10%             |
| CZ13             | 24476103 | CD, 0.01 $\mu$ F, $\pm$ 30%, 16V |
| CZ14             | 24476103 | CD, 0.01 $\mu$ F, $\pm$ 30%, 16V |
| CZ15             | 24473560 | CD, 56pF                         |
| CZ16             | 24473470 | CD, 47pF                         |
| CZ18             | 24092398 | CD, 0.1 $\mu$ F, +80%, -20%      |
| CZ19             | 24794330 | EL, 33 $\mu$ F, $\pm$ 20%, 16V   |
| CZ23             | 24092398 | CD, 0.1 $\mu$ F, +80%, -20%      |
| CZ27             | 24436080 | CD, 8pF, $\pm$ 0.25pF            |
| CZ28             | 24436390 | CD, 39pF                         |
| CZ29             | 24436390 | CD, 39pF                         |
| CZ30             | 24436220 | CD, 22pF                         |
| <b>RESISTORS</b> |          |                                  |
| R101             | 24382183 | OMF, 18k ohm, 1W                 |
| R102             | 24366123 | CF, 12k ohm                      |
| R151             | 24366562 | CF, 5600 ohm (TZ50V61)           |
| R152             | 24366103 | CF, 10k ohm (TZ50V61)            |
| R201             | 24366821 | CF, 820 ohm                      |
| R202             | 24366122 | CF, 1200 ohm                     |
| R204             | 24366104 | CF, 100k ohm                     |
| R205             | 24366101 | CF, 100 ohm (TZ50V61)            |
| R206             | 24366102 | CF, 1k ohm (TZ50V61)             |
| R207             | 24366101 | CF, 100 ohm                      |
| R208             | 24366101 | CF, 100 ohm                      |
| R209             | 24366101 | CF, 100 ohm                      |
| R212             | 24366472 | CF, 4700 ohm                     |
| R213             | 24366122 | CF, 1200 ohm                     |
| R214             | 24366222 | CF, 2200 ohm                     |
| R216             | 24366103 | CF, 10k ohm                      |
| R217             | 24366102 | CF, 1k ohm                       |
| R218             | 24367103 | CF, 10k ohm, $\pm$ 2%            |
| R223             | 24366102 | CF, 1k ohm                       |
| R227             | 24367912 | CF, 9100 ohm, $\pm$ 2%           |
| R240             | 24366272 | CF, 2700 ohm                     |
| R241             | 24366272 | CF, 2700 ohm                     |
| R242             | 24366102 | CF, 1k ohm                       |
| R266             | 24366102 | CF, 1k ohm                       |
| R267             | 24366821 | CF, 820 ohm                      |
| R268             | 24366821 | CF, 820 ohm                      |
| R269             | 24366102 | CF, 1k ohm                       |

| Location No. | Part No. | Description           |
|--------------|----------|-----------------------|
| R270         | 24366682 | CF, 6800 ohm          |
| R301         | 24366102 | CF, 1k ohm            |
| R303         | 24321129 | MF, 1.2 ohm, 1/2W     |
| R304         | 24367223 | CF, 22k ohm, $\pm$ 2% |
| R305         | 24322828 | OMF, 0.82 ohm, 1W     |
| R306         | 24367563 | CF, 56k ohm, $\pm$ 2% |
| R307         | 24367224 | CF, 220k ohm          |
| R308         | 24382391 | OMF, 390 ohm, 1W      |
| R313         | 24367153 | CF, 15k ohm, $\pm$ 2% |
| R313         | 24366104 | CF, 100k ohm          |
| R314         | 24366105 | CF, 1M ohm            |
| R315         | 24366824 | CF, 820k ohm          |
| R316         | 24366274 | CF, 270k ohm          |
| R318         | 24366471 | CF, 470 ohm           |
| R319         | 24366471 | CF, 470 ohm           |
| R320         | 24366101 | CF, 100 ohm           |
| R327         | 24000187 | FR, 3.3 ohm, 1W       |
| R329         | 24366153 | CF, 15k ohm           |
| R330         | 24366102 | CF, 1k ohm            |
| R334         | 24366102 | CF, 1k ohm            |
| R336         | 24382271 | OMF, 270 ohm, 1W      |
| R341         | 24366472 | CF, 4700 ohm          |
| R343         | 24366153 | CF, 15k ohm           |
| R346         | 24366102 | CF, 1k ohm            |
| R347         | 24366184 | CF, 180k ohm          |
| R350         | 24366222 | CF, 2200 ohm          |
| R351         | 24366823 | CF, 82k ohm           |
| R352         | 24366104 | CF, 100k ohm          |
| R353         | 24552101 | OMF, 100 ohm, 1/2W    |
| R354         | 24366682 | CF, 6800 ohm          |
| R356         | 24366823 | CF, 82k ohm           |
| R357         | 24366332 | CF, 3300 ohm          |
| R358         | 24366682 | CF, 6800 ohm          |
| R359         | 24366103 | CF, 10k ohm           |
| R370         | 24321159 | MF, 1.5 ohm, 1/2W     |
| R371         | 24366682 | CF, 6800 ohm          |
| R372         | 24366472 | CF, 4700 ohm          |
| R373         | 24366152 | CF, 1500 ohm          |
| R374         | 24366473 | CF, 47k ohm           |
| R375         | 24366102 | CF, 1k ohm            |
| R389         | 24366222 | CF, 2200 ohm          |
| R390         | 24382561 | OMF, 560 ohm, 1W      |
| R390         | 24366682 | CF, 6800 ohm          |
| R391         | 24382561 | OMF, 560 ohm, 1W      |
| R391         | 24366153 | CF, 15k ohm           |
| R392         | 24366822 | CF, 8200 ohm          |
| R392         | 24382561 | OMF, 560 ohm, 1W      |
| R400         | 24942102 | CC, 1000pF, 1/2W      |
| R401         | 24366391 | CF, 390 ohm           |
| R402         | 24366103 | CF, 10k ohm           |
| R403         | 24366302 | CF, 3k ohm            |
| R404         | 24383270 | OMF, 27 ohm, 2W       |
| R405         | 24382562 | OMF, 5600 ohm, 1W     |
| R406         | 24366223 | CF, 22k ohm           |
| R407         | 24366103 | CF, 10k ohm           |
| R408         | 24321209 | MF, 2 ohm, 1/2W       |
| R409         | 24552103 | OMF, 10k ohm, 1/2W    |
| R410         | 24366331 | CF, 330 ohm           |
| R411         | 24366471 | CF, 470 ohm           |
| R413         | 24366274 | CF, 270k ohm          |
| R415         | 24553272 | OMF, 2700 ohm, 1W     |
| R416         | 24510562 | Cement, 5600 ohm, 5W  |
| R422         | 24366472 | CF, 4700 ohm          |
| R423         | 24366472 | CF, 4700 ohm          |

| Location No. | Part No. | Description                    |
|--------------|----------|--------------------------------|
| R424         | 24546338 | FR, 0.33 ohm, 1/2W             |
| R425         | 24552331 | OMF, 330 ohm, 1/2W             |
| R426         | 24366152 | CF, 1500 ohm                   |
| R427         | 24366822 | CF, 8200 ohm                   |
| R428         | 24366561 | CF, 560 ohm                    |
| R429         | 24552330 | OMF, 33 ohm, 1/2W              |
| R431         | 24382100 | OMF, 10 ohm, 1W                |
| R432         | 24383911 | OMF, 910 ohm, 2W               |
| R433         | 24366912 | CF, 9100 ohm                   |
| R434         | 24366102 | CF, 1k ohm                     |
| R435         | 24366333 | CF, 33k ohm                    |
| R436         | 24327224 | MF, 220k ohm, $\pm 1\%$ , 1/4W |
| R439         | 24366472 | CF, 4700 ohm                   |
| R441         | 24383102 | OMF, 1k ohm, 2W                |
| R443         | 24310109 | MF, 1.0 ohm, 1/2W              |
| R444         | 24338398 | MF, 0.39 ohm, 1W               |
| R445         | 24382682 | OMF, 6800 ohm, 1W              |
| R446         | 24382682 | OMF, 6800 ohm, 1W              |
| R447         | 24382473 | OMF, 47k ohm, 1W               |
| R448         | 24338828 | MF, 0.82 ohm, 1W               |
| R450         | 24066879 | VR, 1k ohm, 0.3W               |
| R451         | 24376223 | CF, 22k ohm, 1/2W              |
| R452         | 24376223 | CF, 22k ohm, 1/2W              |
| R453         | 24376223 | CF, 22k ohm, 1/2W              |
| R454         | 24366223 | CF, 22k ohm                    |
| R455         | 24367333 | CF, 33k ohm, $\pm 2\%$         |
| R460         | 24552332 | OMF, 3300 ohm, 1/2W            |
| R461         | 24366332 | CF, 3300 ohm                   |
| R463         | 24339109 | MF, 1 ohm, 2W                  |
| R464         | 24366273 | CF, 27k ohm                    |
| R465         | 24366114 | CF, 110k ohm                   |
| R466         | 24366152 | CF, 1500 ohm                   |
| R469         | 24000465 | FR, 9.1 ohm, 1W                |
| R470         | 24338568 | MF, 0.56 ohm, 1W               |
| R471         | 24553271 | OMF, 270 ohm, 1W               |
| R472         | 24552270 | OMF, 27 ohm, 1/2W              |
| R473         | 24366102 | CF, 1k ohm                     |
| R477         | 24383121 | OMF, 120 ohm, 2W               |
| R478         | 24376333 | CF, 33k ohm, 1/2W              |
| R479         | 24553121 | OMF, 120 ohm, 1W               |
| R480         | 24552272 | OMF, 2700 ohm, 1/2W            |
| R481         | 24366393 | CF, 39k ohm                    |
| R482         | 24366103 | CF, 10k ohm                    |
| R483         | 24366154 | CF, 150k ohm                   |
| R484         | 24366473 | CF, 47k ohm                    |
| R485         | 24552221 | OMF, 220 ohm, 1/2W             |
| R487         | 24366472 | CF, 4700 ohm                   |
| R488         | 24366474 | CF, 470k ohm                   |
| R489         | 24366332 | CF, 3300 ohm                   |
| R490         | 24366332 | CF, 3300 ohm                   |
| R491         | 24366912 | CF, 9100 ohm                   |
| R491         | 24366472 | CF, 4700 ohm                   |
| R492         | 24366102 | CF, 1k ohm                     |
| R493         | 24552472 | OMF, 4700 ohm, 1/2W            |
| R494         | 24366183 | CF, 18k ohm                    |
| R495         | 24366472 | CF, 4700 ohm                   |
| R497         | 24552201 | OMF, 200 ohm, 1/2W             |
| R498         | 24366473 | CF, 47k ohm                    |
| R499         | 24366681 | CF, 680 ohm                    |
| R501         | 24366223 | CF, 22k ohm                    |
| R502         | 24366101 | CF, 100 ohm                    |
| R503         | 24366101 | CF, 100 ohm                    |
| R504         | 24366101 | CF, 100 ohm                    |
| R505         | 24366471 | CF, 470 ohm                    |

| Location No. | Part No. | Description           |
|--------------|----------|-----------------------|
| R506         | 24366103 | CF, 10k ohm           |
| R508         | 24366102 | CF, 1k ohm            |
| R509         | 24366471 | CF, 470 ohm           |
| R510         | 24366102 | CF, 1k ohm            |
| R512         | 24366101 | CF, 100 ohm           |
| R514         | 24366122 | CF, 1200 ohm          |
| R515         | 24366103 | CF, 10k ohm           |
| R601         | 24366822 | CF, 8200 ohm          |
| R602         | 24366822 | CF, 8200 ohm          |
| R603         | 24366152 | CF, 1500 ohm          |
| R604         | 24366152 | CF, 1500 ohm          |
| R609         | 24366229 | CF, 2.2 ohm           |
| R610         | 24366229 | CF, 2.2 ohm           |
| R611         | 24366472 | CF, 4700 ohm          |
| R612         | 24366472 | CF, 4700 ohm          |
| R613         | 24366222 | CF, 2200 ohm          |
| R680         | 24366473 | CF, 47k ohm           |
| R682         | 24366473 | CF, 47k ohm           |
| R683         | 24366223 | CF, 22k ohm           |
| R684         | 24366223 | CF, 22k ohm           |
| R687         | 24366103 | CF, 10k ohm           |
| R689         | 24366222 | CF, 2200 ohm          |
| R690         | 24366823 | CF, 82k ohm           |
| R701         | 24872221 | Chip, 220 ohm, 1/16W  |
| R702         | 24872221 | Chip, 220 ohm, 1/16W  |
| R707         | 24872100 | Chip, 10 ohm, 1/16W   |
| R708         | 24872100 | Chip, 10 ohm, 1/16W   |
| R709         | 24872100 | Chip, 10 ohm, 1/16W   |
| R710         | 24872100 | Chip, 10 ohm, 1/16W   |
| R711         | 24872100 | Chip, 10 ohm, 1/16W   |
| R712         | 24872100 | Chip, 10 ohm, 1/16W   |
| R713         | 24872100 | Chip, 10 ohm, 1/16W   |
| R714         | 24872100 | Chip, 10 ohm, 1/16W   |
| R715         | 24872153 | Chip, 15k ohm, 1/16W  |
| R716         | 24872103 | Chip, 10k ohm, 1/16W  |
| R717         | 24872622 | Chip, 6200 ohm, 1/16W |
| R718         | 24872152 | Chip, 1500 ohm, 1/16W |
| R720         | 24872103 | Chip, 10k ohm, 1/16W  |
| R721         | 24872223 | Chip, 22k ohm, 1/16W  |
| R722         | 24872222 | Chip, 2200 ohm, 1/16W |
| R725         | 24872754 | Chip, 750k ohm, 1/16W |
| R727         | 24871221 | Chip, 220 ohm, 1/8W   |
| R728         | 24872393 | Chip, 39k ohm, 1/16W  |
| R729         | 24872153 | Chip, 15k ohm, 1/16W  |
| R735         | 24872911 | Chip, 910 ohm, 1/16W  |
| R736         | 24872911 | Chip, 910 ohm, 1/16W  |
| R737         | 24872152 | Chip, 1500 ohm, 1/16W |
| R738         | 24872332 | Chip, 3300 ohm, 1/16W |
| R739         | 24872362 | Chip, 3600 ohm, 1/16W |
| R740         | 24872911 | Chip, 910 ohm, 1/16W  |
| R741         | 24872911 | Chip, 910 ohm, 1/16W  |
| R742         | 24872152 | Chip, 1500 ohm, 1/16W |
| R743         | 24872332 | Chip, 3300 ohm, 1/16W |
| R744         | 24872362 | Chip, 3600 ohm, 1/16W |
| R745         | 24872911 | Chip, 910 ohm, 1/16W  |
| R746         | 24872911 | Chip, 910 ohm, 1/16W  |
| R747         | 24872152 | Chip, 1500 ohm, 1/16W |
| R748         | 24872332 | Chip, 3300 ohm, 1/16W |
| R749         | 24872362 | Chip, 3600 ohm, 1/16W |
| R750         | 24872911 | Chip, 910 ohm, 1/16W  |
| R751         | 24872911 | Chip, 910 ohm, 1/16W  |
| R752         | 24872152 | Chip, 1500 ohm, 1/16W |
| R753         | 24872332 | Chip, 3300 ohm, 1/16W |
| R754         | 24872362 | Chip, 3600 ohm, 1/16W |

| Location No. | Part No. | Description                      |
|--------------|----------|----------------------------------|
| R755         | 24872911 | Chip, 910 ohm, 1/16W             |
| R756         | 24872911 | Chip, 910 ohm, 1/16W             |
| R757         | 24872152 | Chip, 1500 ohm, 1/16W            |
| R758         | 24872332 | Chip, 3300 ohm, 1/16W            |
| R759         | 24872362 | Chip, 3600 ohm, 1/16W            |
| R760         | 24872911 | Chip, 910 ohm, 1/16W             |
| R761         | 24872911 | Chip, 910 ohm, 1/16W             |
| R762         | 24872152 | Chip, 1500 ohm, 1/16W            |
| R763         | 24872332 | Chip, 3300 ohm, 1/16W            |
| R764         | 24872362 | Chip, 3600 ohm, 1/16W            |
| R778         | 24872101 | Chip, 100 ohm, 1/16W             |
| R779         | 24872101 | Chip, 100 ohm, 1/16W             |
| R780         | 24872101 | Chip, 100 ohm, 1/16W             |
| R781         | 24872101 | Chip, 100 ohm, 1/16W             |
| R782         | 24872101 | Chip, 100 ohm, 1/16W             |
| R783         | 24872101 | Chip, 100 ohm, 1/16W             |
| R786         | 24872472 | Chip, 4700 ohm, 1/16W            |
| R787         | 24872472 | Chip, 4700 ohm, 1/16W            |
| R809         | 24007042 | Cement, 2.2 ohm, 5W              |
| R810         | 24007061 | Cement, 1.8 ohm, $\pm 10\%$ , 2W |
| R830         | 24546189 | FR, 1.8 ohm, 1/2W                |
| R831         | 24366471 | CF, 470 ohm                      |
| R846         | 24366103 | CF, 10k ohm                      |
| R861         | 24382153 | OMF, 15k ohm, 1W                 |
| R862         | 24381330 | OMF, 33 ohm, 1/2W                |
| R864         | 24552102 | OMF, 1k ohm, 1/2W                |
| R865         | 24552181 | OMF, 180 ohm, 1/2W               |
| R867         | 24000247 | MF, 39k ohm, $\pm 1\%$ , 1/4W    |
| R868         | 24552101 | OMF, 100 ohm, 1/2W               |
| R870         | 24381221 | OMF, 220 ohm, 1/2W               |
| R871         | 24382470 | OMF, 47 ohm, 1W                  |
| R872         | 24382913 | OMF, 91k ohm, 1W                 |
| R883         | 24381682 | OMF, 6800 ohm, 1/2W              |
| R884         | 24366102 | CF, 1k ohm                       |
| R889         | 24366272 | CF, 2700 ohm                     |
| R890         | 24382333 | OMF, 33k ohm, 1W                 |
| R891         | 24366152 | CF, 1500 ohm                     |
| R898         | 24002000 | CC, 3.9M ohm, $\pm 10\%$ , 1/2W  |
| R900         | 24000940 | FR, 2 ohm, 2W                    |
| R901         | 24366101 | CF, 100 ohm                      |
| R903         | 24942102 | CC, 1000pF, 1/2W                 |
| R904         | 24366102 | CF, 1k ohm                       |
| R905         | 24366910 | CF, 91 ohm                       |
| R906         | 24366471 | CF, 470 ohm                      |
| R908         | 24366430 | CF, 43 ohm                       |
| R909         | 24366121 | CF, 120 ohm                      |
| R911         | 24366101 | CF, 100 ohm                      |
| R913         | 24942102 | CC, 1000pF, 1/2W                 |
| R914         | 24366102 | CF, 1k ohm                       |
| R915         | 24366820 | CF, 82 ohm                       |
| R916         | 24366471 | CF, 470 ohm                      |
| R918         | 24366430 | CF, 43 ohm                       |
| R919         | 24366471 | CF, 470 ohm                      |
| R921         | 24366101 | CF, 100 ohm                      |
| R923         | 24942102 | CC, 1000pF, 1/2W                 |
| R924         | 24366102 | CF, 1k ohm                       |
| R925         | 24366121 | CF, 120 ohm                      |
| R926         | 24366471 | CF, 470 ohm                      |
| R928         | 24366430 | CF, 43 ohm                       |
| R931         | 24555153 | OMF, 15k ohm, 3W                 |
| R932         | 24555153 | OMF, 15k ohm, 3W                 |
| R936         | 24366330 | CF, 33 ohm                       |
| R940         | 24366331 | CF, 330 ohm                      |
| R941         | 24555153 | OMF, 15k ohm, 3W                 |

| Location No. | Part No. | Description             |
|--------------|----------|-------------------------|
| R942         | 24555153 | OMF, 15k ohm, 3W        |
| R943         | 24366103 | CF, 10k ohm             |
| R944         | 24366120 | CF, 12 ohm              |
| R945         | 24366680 | CF, 68 ohm              |
| R946         | 24366330 | CF, 33 ohm              |
| R947         | 24366561 | CF, 560 ohm             |
| R949         | 24366910 | CF, 91 ohm              |
| R950         | 24366101 | CF, 100 ohm             |
| R951         | 24555153 | OMF, 15k ohm, 3W        |
| R952         | 24555153 | OMF, 15k ohm, 3W        |
| R953         | 24366910 | CF, 91 ohm              |
| R954         | 24366102 | CF, 1k ohm              |
| R955         | 24366151 | CF, 150 ohm             |
| R956         | 24366271 | CF, 270 ohm             |
| R957         | 24366330 | CF, 33 ohm              |
| R958         | 24366821 | CF, 820 ohm             |
| R959         | 24366560 | CF, 56 ohm              |
| R960         | 24366560 | CF, 56 ohm              |
| R961         | 24366821 | CF, 820 ohm             |
| R962         | 24366391 | CF, 390 ohm             |
| R963         | 24366222 | CF, 2200 ohm            |
| R964         | 24366332 | CF, 3300 ohm            |
| R965         | 24366471 | CF, 470 ohm             |
| R966         | 24366821 | CF, 820 ohm             |
| R967         | 24366122 | CF, 1200 ohm            |
| R968         | 24366680 | CF, 68 ohm              |
| R969         | 24366103 | CF, 10k ohm             |
| R970         | 24366222 | CF, 2200 ohm            |
| R971         | 24367152 | CF, 1500 ohm, $\pm 2\%$ |
| R972         | 24367471 | CF, 470 ohm, $\pm 2\%$  |
| R973         | 24367681 | CF, 680 ohm, $\pm 2\%$  |
| R974         | 24367681 | CF, 680 ohm, $\pm 2\%$  |
| R975         | 24366242 | CF, 2400 ohm            |
| R976         | 24367562 | CF, 5600 ohm, $\pm 2\%$ |
| R977         | 24367682 | CF, 560 ohm, $\pm 2\%$  |
| R978         | 24367681 | CF, 680 ohm, $\pm 2\%$  |
| R980         | 24366272 | CF, 2700 ohm            |
| R981         | 24366103 | CF, 10k ohm             |
| R982         | 24366392 | CF, 3900 ohm            |
| R983         | 24366562 | CF, 5600 ohm            |
| R984         | 24366392 | CF, 3900 ohm            |
| R986         | 24366102 | CF, 1k ohm              |
| R987         | 24366822 | CF, 8200 ohm            |
| R988         | 24366103 | CF, 10k ohm             |
| R989         | 24366103 | CF, 10k ohm             |
| R990         | 24366271 | CF, 270 ohm             |
| R991         | 24366271 | CF, 270 ohm             |
| R992         | 24366272 | CF, 2700 ohm            |
| R993         | 24366222 | CF, 2200 ohm            |
| R994         | 24366272 | CF, 2700 ohm            |
| R995         | 24366102 | CF, 1k ohm              |
| R996         | 24366103 | CF, 10k ohm             |
| R997         | 24366272 | CF, 2700 ohm            |
| R998         | 24366102 | CF, 1k ohm              |
| R999         | 24366102 | CF, 1k ohm              |
| R7707        | 24366472 | CF, 4700 ohm            |
| R7708        | 24366472 | CF, 4700 ohm            |
| R7710        | 24555680 | OMF, 68 ohm, 3W         |
| R7711        | 24323229 | MF, 2.2 ohm, 2W         |
| R7712        | 24366472 | CF, 4700 ohm            |
| R7713        | 24366472 | CF, 4700 ohm            |
| R7715        | 24555680 | OMF, 68 ohm, 3W         |
| R7716        | 24323229 | MF, 2.2 ohm, 2W         |
| R7717        | 24366472 | CF, 4700 ohm            |

| Location No. | Part No. | Description         |
|--------------|----------|---------------------|
| R7718        | 24366472 | CF, 4700 ohm        |
| R7720        | 24555680 | OMF, 68 ohm, 3W     |
| R7721        | 24323229 | MF, 2.2 ohm, 2W     |
| R7722        | 24366472 | CF, 4700 ohm        |
| R7723        | 24366472 | CF, 4700 ohm        |
| R7725        | 24555680 | OMF, 68 ohm, 3W     |
| R7726        | 24323229 | MF, 2.2 ohm, 2W     |
| R7727        | 24366472 | CF, 4700 ohm        |
| R7728        | 24366472 | CF, 4700 ohm        |
| R7730        | 24555680 | OMF, 68 ohm, 3W     |
| R7731        | 24323229 | MF, 2.2 ohm, 2W     |
| R7732        | 24366472 | CF, 4700 ohm        |
| R7733        | 24366472 | CF, 4700 ohm        |
| R7735        | 24555680 | OMF, 68 ohm, 3W     |
| R7736        | 24323229 | MF, 2.2 ohm, 2W     |
| R7738        | 24383101 | OMF, 100 ohm, 2W    |
| R7741        | 24366102 | CF, 1k ohm          |
| R7742        | 24366472 | CF, 4700 ohm        |
| R7743        | 24366223 | CF, 22k ohm         |
| R7744        | 24366102 | CF, 1k ohm          |
| R7745        | 24366332 | CF, 3300 ohm        |
| R7746        | 24366223 | CF, 22k ohm         |
| R7747        | 24366222 | CF, 2200 ohm        |
| R7749        | 24366331 | CF, 330 ohm         |
| R7750        | 24323278 | MF, 0.27 ohm, 2W    |
| R7751        | 24366471 | CF, 470 ohm         |
| R7757        | 24366223 | CF, 22k ohm         |
| R7758        | 24366222 | CF, 2200 ohm        |
| R7763        | 24366471 | CF, 470 ohm         |
| R7764        | 24366331 | CF, 330 ohm         |
| R7765        | 24339398 | MF, 0.39 ohm, 2W    |
| R7766        | 24366223 | CF, 22k ohm         |
| R7767        | 24366223 | CF, 22k ohm         |
| R7768        | 24366102 | CF, 1k ohm          |
| R7771        | 24366102 | CF, 1k ohm          |
| R7772        | 24366102 | CF, 1k ohm          |
| R7774        | 24383151 | OMF, 150 ohm, 2W    |
| R7775        | 24366273 | CF, 27k ohm         |
| R7776        | 24366472 | CF, 4700 ohm        |
| R7777        | 24366273 | CF, 27k ohm         |
| R7778        | 24366472 | CF, 4700 ohm        |
| R7779        | 24366102 | CF, 1k ohm          |
| R7780        | 24366102 | CF, 1k ohm          |
| R7781        | 24366333 | CF, 33k ohm         |
| R7782        | 24339828 | OMF, 0.82 ohm, 2W   |
| R7783        | 24366331 | CF, 330 ohm         |
| R7784        | 24366471 | CF, 470 ohm         |
| R7785        | 24366222 | CF, 2200 ohm        |
| R7786        | 24366103 | CF, 10k ohm         |
| R7787        | 24366104 | CF, 100k ohm        |
| R7788        | 24366103 | CF, 10k ohm         |
| R7789        | 24366471 | CF, 470 ohm         |
| R7790        | 24552182 | OMF, 1800 ohm, 1/2W |
| R7791        | 24552681 | OMF, 680 ohm, 1/2W  |
| R7792        | 24366471 | CF, 470 ohm         |
| R7793        | 24552182 | OMF, 1800 ohm, 1/2W |
| R7795        | 24366101 | CF, 100 ohm         |
| R7796        | 24366101 | CF, 100 ohm         |
| R7797        | 24366101 | CF, 100 ohm         |
| R7798        | 24366102 | CF, 1k ohm          |
| RA03         | 24366102 | CF, 1k ohm          |
| RA04         | 24366102 | CF, 1k ohm          |
| RA05         | 24366102 | CF, 1k ohm          |
| RA06         | 24366102 | CF, 1k ohm          |

| Location No. | Part No. | Description          |
|--------------|----------|----------------------|
| RA07         | 24366102 | CF, 1k ohm           |
| RA08         | 24366102 | CF, 1k ohm           |
| RA09         | 24366102 | CF, 1k ohm (TZ50V61) |
| RA10         | 24366102 | CF, 1k ohm           |
| RA13         | 24366103 | CF, 10k ohm          |
| RA14         | 24366102 | CF, 1k ohm           |
| RA15         | 24366102 | CF, 1k ohm           |
| RA16         | 24366102 | CF, 1k ohm           |
| RA17         | 24366102 | CF, 1k ohm           |
| RA18         | 24366102 | CF, 1k ohm           |
| RA19         | 24366102 | CF, 1k ohm           |
| RA21         | 24366102 | CF, 1k ohm           |
| RA22         | 24366331 | CF, 330 ohm          |
| RA23         | 24366331 | CF, 330 ohm          |
| RA24         | 24366331 | CF, 330 ohm          |
| RA25         | 24366332 | CF, 3300 ohm         |
| RA33         | 24366103 | CF, 10k ohm          |
| RA34         | 24366102 | CF, 1k ohm           |
| RA35         | 24366102 | CF, 1k ohm           |
| RA36         | 24366103 | CF, 10k ohm          |
| RA37         | 24366101 | CF, 100 ohm          |
| RA38         | 24366101 | CF, 100 ohm          |
| RA40         | 24366101 | CF, 100 ohm          |
| RA41         | 24366101 | CF, 100 ohm          |
| RA57         | 24366223 | CF, 22k ohm          |
| RA61         | 24366103 | CF, 10k ohm          |
| RA62         | 24366103 | CF, 10k ohm          |
| RA70         | 24366333 | CF, 33k ohm          |
| RA71         | 24366683 | CF, 68k ohm          |
| RA72         | 24366223 | CF, 22k ohm          |
| RA73         | 24366103 | CF, 10k ohm          |
| RA75         | 24366333 | CF, 33k ohm          |
| RA76         | 24366822 | CF, 8200 ohm         |
| RA77         | 24366153 | CF, 15k ohm          |
| RA78         | 24366273 | CF, 27k ohm          |
| RA79         | 24366823 | CF, 82k ohm          |
| RA81         | 24366101 | CF, 100 ohm          |
| RA82         | 24366101 | CF, 100 ohm          |
| RA83         | 24366101 | CF, 100 ohm          |
| RB01         | 24366271 | CF, 270 ohm          |
| RB02         | 24366102 | CF, 1k ohm           |
| RB03         | 24366101 | CF, 100 ohm          |
| RB04         | 24366103 | CF, 10k ohm          |
| RB10         | 24366153 | CF, 15k ohm          |
| RB11         | 24366153 | CF, 15k ohm          |
| RB12         | 24366332 | CF, 3300 ohm         |
| RB13         | 24366332 | CF, 3300 ohm         |
| RB14         | 24366153 | CF, 15k ohm          |
| RB15         | 24366471 | CF, 470 ohm          |
| RB15         | 24366153 | CF, 15k ohm          |
| RB16         | 24366332 | CF, 3300 ohm         |
| RB17         | 24366332 | CF, 3300 ohm         |
| RB18         | 24366103 | CF, 10k ohm          |
| RB19         | 24366470 | CF, 47 ohm           |
| RB19         | 24366101 | CF, 100 ohm          |
| RB20         | 24366102 | CF, 1k ohm           |
| RB21         | 24366103 | CF, 10k ohm          |
| RB22         | 24366331 | CF, 330 ohm          |
| RB23         | 24366331 | CF, 330 ohm          |
| RB24         | 24366331 | CF, 330 ohm          |
| RB25         | 24366332 | CF, 3300 ohm         |
| RB26         | 24366103 | CF, 10k ohm          |
| RB27         | 24366102 | CF, 1k ohm           |
| RB30         | 24366103 | CF, 10k ohm          |

| Location No. | Part No. | Description  |
|--------------|----------|--------------|
| RB33         | 24366103 | CF, 10k ohm  |
| RB35         | 24366102 | CF, 1k ohm   |
| RB37         | 24366101 | CF, 100 ohm  |
| RB38         | 24366101 | CF, 100 ohm  |
| RB40         | 24366101 | CF, 100 ohm  |
| RB41         | 24366101 | CF, 100 ohm  |
| RB41         | 24366681 | CF, 680 ohm  |
| RB41         | 24366273 | CF, 27k ohm  |
| RB42         | 24366153 | CF, 15k ohm  |
| RB56         | 24366102 | CF, 1k ohm   |
| RB61         | 24366222 | CF, 2200 ohm |
| RB62         | 24366101 | CF, 100 ohm  |
| RB63         | 24366472 | CF, 4700 ohm |
| RB66         | 24366222 | CF, 2200 ohm |
| RB67         | 24366103 | CF, 10k ohm  |
| RB81         | 24366122 | CF, 1200 ohm |
| RB82         | 24366123 | CF, 12k ohm  |
| RB83         | 24366123 | CF, 12k ohm  |
| RB84         | 24366562 | CF, 5600 ohm |
| RB90         | 24366392 | CF, 3900 ohm |
| RB91         | 24366473 | CF, 47k ohm  |
| RB92         | 24366271 | CF, 270 ohm  |
| RB93         | 24366271 | CF, 270 ohm  |
| RB94         | 24366222 | CF, 2200 ohm |
| RB95         | 24366222 | CF, 2200 ohm |
| RB96         | 24366273 | CF, 27k ohm  |
| RB97         | 24366273 | CF, 27k ohm  |
| RB98         | 24366102 | CF, 1k ohm   |
| RD09         | 24366101 | CF, 100 ohm  |
| RD11         | 24366101 | CF, 100 ohm  |
| RD13         | 24366229 | CF, 2.2 ohm  |
| RD14         | 24366103 | CF, 10k ohm  |
| RD16         | 24366103 | CF, 10k ohm  |
| RR01         | 24366102 | CF, 1k ohm   |
| RR02         | 24366104 | CF, 100k ohm |
| RR03         | 24366222 | CF, 2200 ohm |
| RR04         | 24366101 | CF, 100 ohm  |
| RR06         | 24366102 | CF, 1k ohm   |
| RR07         | 24366102 | CF, 1k ohm   |
| RR08         | 24366332 | CF, 3300 ohm |
| RR09         | 24366222 | CF, 2200 ohm |
| RR10         | 24366102 | CF, 1k ohm   |
| RR11         | 24366272 | CF, 2700 ohm |
| RR12         | 24366152 | CF, 1500 ohm |
| RR13         | 24366152 | CF, 1500 ohm |
| RR14         | 24366152 | CF, 1500 ohm |
| RR15         | 24366391 | CF, 390 ohm  |
| RR16         | 24366391 | CF, 390 ohm  |
| RR17         | 24366391 | CF, 390 ohm  |
| RR18         | 24366332 | CF, 3300 ohm |
| RR19         | 24366102 | CF, 1k ohm   |
| RR22         | 24366223 | CF, 22k ohm  |
| RR23         | 24366223 | CF, 22k ohm  |
| RR24         | 24366102 | CF, 1k ohm   |
| RR25         | 24366101 | CF, 100 ohm  |
| RR26         | 24366222 | CF, 2200 ohm |
| RR27         | 24366681 | CF, 680 ohm  |
| RR28         | 24366681 | CF, 680 ohm  |
| RR29         | 24366681 | CF, 680 ohm  |
| RR30         | 24366222 | CF, 2200 ohm |
| RR31         | 24366222 | CF, 2200 ohm |
| RR32         | 24366222 | CF, 2200 ohm |
| RR33         | 24366822 | CF, 8200 ohm |
| RR34         | 24366822 | CF, 8200 ohm |

| Location No. | Part No. | Description          |
|--------------|----------|----------------------|
| RR35         | 24366822 | CF, 8200 ohm         |
| RR36         | 24366102 | CF, 1k ohm           |
| RR37         | 24366102 | CF, 1k ohm           |
| RR38         | 24366102 | CF, 1k ohm           |
| RR39         | 24366222 | CF, 2200 ohm         |
| RR40         | 24366101 | CF, 100 ohm          |
| RR42         | 24366101 | CF, 100 ohm          |
| RR44         | 24366101 | CF, 100 ohm          |
| RR46         | 24366222 | CF, 2200 ohm         |
| RR47         | 24366222 | CF, 2200 ohm         |
| RR48         | 24366222 | CF, 2200 ohm         |
| RR50         | 24366103 | CF, 10k ohm          |
| RR51         | 24366103 | CF, 10k ohm          |
| RR52         | 24366102 | CF, 1k ohm           |
| RR53         | 24366471 | CF, 470 ohm          |
| RR54         | 24366102 | CF, 1k ohm           |
| RR55         | 24366471 | CF, 470 ohm          |
| RR56         | 24366102 | CF, 1k ohm           |
| RR57         | 24366471 | CF, 470 ohm          |
| RR58         | 24366103 | CF, 10k ohm(TZ50V51) |
| RR59         | 24366393 | CF, 39k ohm(TZ50V51) |
| RR61         | 24366332 | CF, 3300 ohm         |
| RR62         | 24366332 | CF, 3300 ohm         |
| RR63         | 24366332 | CF, 3300 ohm         |
| RR92         | 24366222 | CF, 2200 ohm         |
| RR99         | 24366102 | CF, 1k ohm           |
| RS02         | 24366472 | CF, 4700 ohm         |
| RS04         | 24366102 | CF, 1k ohm           |
| RS06         | 24366102 | CF, 1k ohm           |
| RS07         | 24366103 | CF, 10k ohm          |
| RS08         | 24366103 | CF, 10k ohm          |
| RS12         | 24366103 | CF, 10k ohm          |
| RS21         | 24366104 | CF, 100k ohm         |
| RS22         | 24366104 | CF, 100k ohm         |
| RS25         | 24366223 | CF, 22k ohm          |
| RS26         | 24366223 | CF, 22k ohm          |
| RS27         | 24366471 | CF, 470 ohm          |
| RS28         | 24366471 | CF, 470 ohm          |
| RS29         | 24366104 | CF, 100k ohm         |
| RS30         | 24366104 | CF, 100k ohm         |
| RS31         | 24366103 | CF, 10k ohm          |
| RS32         | 24366104 | CF, 100k ohm         |
| RS33         | 24366222 | CF, 2200 ohm         |
| RS34         | 24366222 | CF, 2200 ohm         |
| RS35         | 24366103 | CF, 10k ohm          |
| RS36         | 24366103 | CF, 10k ohm          |
| RS37         | 24366101 | CF, 100 ohm          |
| RS40         | 24366101 | CF, 100 ohm          |
| RS42         | 24366101 | CF, 100 ohm          |
| RS48         | 24366101 | CF, 100 ohm          |
| RS49         | 24366103 | CF, 10k ohm          |
| RS51         | 24366103 | CF, 10k ohm          |
| RS52         | 24366103 | CF, 10k ohm          |
| RS101        | 24366123 | CF, 12k ohm          |
| RS102        | 24366123 | CF, 12k ohm          |
| RS103        | 24366103 | CF, 10k ohm          |
| RS104        | 24366473 | CF, 47k ohm          |
| RS105        | 24366222 | CF, 2200 ohm         |
| RS107        | 24366473 | CF, 47k ohm          |
| RS108        | 24366473 | CF, 47k ohm          |
| RS109        | 24366153 | CF, 15k ohm          |
| RS110        | 24366101 | CF, 100 ohm          |
| RS112        | 24366223 | CF, 22k ohm          |
| RS113        | 24366153 | CF, 15k ohm          |

| Location No. | Part No. | Description            |
|--------------|----------|------------------------|
| RS114        | 24366101 | CF, 100 ohm            |
| RS116        | 24366223 | CF, 22k ohm            |
| RV03         | 24366101 | CF, 100 ohm            |
| RV04         | 24366101 | CF, 100 ohm            |
| RV10         | 24366100 | CF, 10 ohm             |
| RV11         | 24366100 | CF, 10 ohm             |
| RV12         | 24366100 | CF, 10 ohm             |
| RV13         | 24366100 | CF, 10 ohm             |
| RV14         | 24366100 | CF, 10 ohm             |
| RV15         | 24366222 | CF, 2200 ohm           |
| RV20         | 24366750 | CF, 75 ohm             |
| RV21         | 24366750 | CF, 75 ohm (TZ50V61)   |
| RV22         | 24366750 | CF, 75 ohm (TZ60V51)   |
| RV23         | 24366332 | CF, 3300 ohm (TZ60V51) |
| RV24         | 24366680 | CF, 68 ohm             |
| RV25         | 24366750 | CF, 75 ohm             |
| RV26         | 24366750 | CF, 75 ohm             |
| RV31         | 24366332 | CF, 3300 ohm           |
| RV32         | 24366750 | CF, 75 ohm             |
| RV33         | 24366680 | CF, 68 ohm             |
| RV34         | 24366750 | CF, 75 ohm             |
| RV40         | 24366822 | CF, 8200 ohm           |
| RV41         | 24366472 | CF, 4700 ohm           |
| RV42         | 24366561 | CF, 560 ohm            |
| RV43         | 24366471 | CF, 470 ohm            |
| RV44         | 24366471 | CF, 470 ohm            |
| RV45         | 24366222 | CF, 2200 ohm           |
| RV46         | 24366102 | CF, 1k ohm             |
| RV47         | 24366102 | CF, 1k ohm             |
| RV48         | 24366102 | CF, 1k ohm             |
| RV49         | 24366102 | CF, 1k ohm             |
| RV60         | 24366682 | CF, 6800 ohm           |
| RV63         | 24366102 | CF, 1k ohm             |
| RV67         | 24366750 | CF, 75 ohm             |
| RV68         | 24366181 | CF, 180 ohm            |
| RV69         | 24366101 | CF, 100 ohm            |
| RV74         | 24366680 | CF, 68 ohm             |
| RV83         | 24366332 | CF, 3300 ohm           |
| RV84         | 24366750 | CF, 75 ohm             |
| RV85         | 24552181 | OMF, 180 ohm, 1/2W     |
| RV89         | 24366750 | CF, 75 ohm             |
| RV90         | 24366103 | CF, 10k ohm            |
| RV91         | 24366302 | CF, 3k ohm             |
| RV92         | 24366103 | CF, 10k ohm            |
| RV93         | 24366103 | CF, 10k ohm            |
| RV94         | 24366392 | CF, 3900 ohm           |
| RV95         | 24366123 | CF, 12k ohm            |
| RV96         | 24366274 | CF, 270k ohm           |
| RV97         | 24366331 | CF, 330 ohm            |
| RV98         | 24366472 | CF, 4700 ohm           |
| RW01         | 24366683 | CF, 68k ohm            |
| RW02         | 24366821 | CF, 820 ohm            |
| RW02         | 24366473 | CF, 47k ohm            |
| RW03         | 24366333 | CF, 33k ohm            |
| RW04         | 24366153 | CF, 15k ohm            |
| RW05         | 24366102 | CF, 1k ohm             |
| RW07         | 24366222 | CF, 2200 ohm           |
| RW09         | 24366563 | CF, 56k ohm            |
| RW10         | 24366102 | CF, 1k ohm             |
| RW13         | 24366393 | CF, 39k ohm            |
| RW14         | 24552121 | OMF, 120 ohm, 1/2W     |
| RW14         | 24366101 | CF, 100 ohm            |
| RW15         | 24366223 | CF, 22k ohm            |
| RW16         | 24366101 | CF, 100 ohm            |

| Location No. | Part No. | Description        |
|--------------|----------|--------------------|
| RW16         | 24366273 | CF, 27k ohm        |
| RW17         | 24366333 | CF, 33k ohm        |
| RW18         | 24366101 | CF, 100 ohm        |
| RW18         | 24366103 | CF, 10k ohm        |
| RW19         | 24366100 | CF, 10 ohm         |
| RW19         | 24366473 | CF, 47k ohm        |
| RW20         | 24366392 | CF, 3900 ohm       |
| RW22         | 24366102 | CF, 1k ohm         |
| RW23         | 24366471 | CF, 470 ohm        |
| RW24         | 24366471 | CF, 470 ohm        |
| RW24         | 24366470 | CF, 47 ohm         |
| RW25         | 24366182 | CF, 1800 ohm       |
| RW26         | 24366682 | CF, 6800 ohm       |
| RW27         | 24366682 | CF, 6800 ohm       |
| RW28         | 24366751 | CF, 750 ohm        |
| RW30         | 24366102 | CF, 1k ohm         |
| RW30         | 24552100 | OMF, 10 ohm, 1/2W  |
| RW31         | 24552331 | OMF, 330 ohm, 1/2W |
| RW32         | 24366820 | CF, 82 ohm         |
| RW32         | 24366820 | CF, 82 ohm         |
| RW33         | 24366683 | CF, 68k ohm        |
| RW33         | 24366683 | CF, 68k ohm        |
| RW34         | 24366820 | CF, 82 ohm         |
| RW35         | 24366683 | CF, 68k ohm        |
| RW36         | 24366330 | CF, 33 ohm         |
| RW37         | 24366152 | CF, 1500 ohm       |
| RW38         | 24366102 | CF, 1k ohm         |
| RW39         | 24366152 | CF, 1500 ohm       |
| RW40         | 24366182 | CF, 1800 ohm       |
| RW40         | 24366330 | CF, 33 ohm         |
| RW41         | 24366279 | CF, 2.7 ohm        |
| RW41         | 24366102 | CF, 1k ohm         |
| RW42         | 24366279 | CF, 2.7 ohm        |
| RW42         | 24366101 | CF, 100 ohm        |
| RW43         | 24554221 | OMF, 220 ohm, 2W   |
| RW43         | 24366101 | CF, 100 ohm        |
| RW44         | 24366122 | CF, 1200 ohm       |
| RW44         | 24366101 | CF, 100 ohm        |
| RW45         | 24366122 | CF, 1200 ohm       |
| RY01         | 24366103 | CF, 10k ohm        |
| RY10         | 24366103 | CF, 10k ohm        |
| RY11         | 24366102 | CF, 1k ohm         |
| RY80         | 24366331 | CF, 330 ohm        |
| RY81         | 24366101 | CF, 100 ohm        |
| RY82         | 24366102 | CF, 1k ohm         |
| RY87         | 24366100 | CF, 10 ohm         |
| RZ01         | 24366101 | CF, 100 ohm        |
| RZ02         | 24366221 | CF, 220 ohm        |
| RZ03         | 24366102 | CF, 1k ohm         |
| RZ04         | 24366102 | CF, 1k ohm         |
| RZ05         | 24366821 | CF, 820 ohm        |
| RZ08         | 24366102 | CF, 1k ohm         |
| RZ09         | 24366221 | CF, 220 ohm        |
| RZ10         | 24366561 | CF, 560 ohm        |
| RZ11         | 24366391 | CF, 390 ohm        |

### COILS & TRANSFORMERS

|      |          |                                    |
|------|----------|------------------------------------|
| L104 | 23289680 | Coil, Peaking, TRF4680AF           |
| L111 | 23238562 | Coil, Peaking, TRF4109AJ (TZ50V61) |
| L112 | 23238562 | Coil, Peaking, TRF4109AJ (TZ50V61) |
| L113 | 23289220 | Coil, Peaking, TRF4220AF           |
| L115 | 23103852 | Coil, Filter, TEM2028AH            |

| Location No. | Part No. | Description                   |
|--------------|----------|-------------------------------|
| L301         | 23103859 | Coil (Ferrite Bead), TEM2011  |
| L303         | 23237975 | Coil, Peaking, TRF4101AC      |
| L400         | 23289100 | Coil, Peaking, TRF4100AF      |
| L405         | 23289101 | Coil, Peaking, TRF4101AF      |
| △L441        | 23233947 | Coil, Linearity, TLN2144G     |
| L442         | 23248186 | Coil, Choke, TLN3346AD        |
| △L461        | 23248175 | Coil, Choke, TLN3335AD        |
| △L462        | 23231135 | Deflection Yoke, TDY707AS(R)  |
| △L463        | 23231135 | Deflection Yoke, TDY707AS(R)  |
| △L464        | 23231135 | Deflection Yoke, TDY707AS(R)  |
| L465         | 23103880 | Coil (Ferrite Bead), TEM2011Y |
| L472         | 23102457 | Magnet, MAG-1102              |
| L473         | 23102457 | Magnet, MAG-1102              |
| L474         | 23102457 | Magnet, MAG-1102              |
| L501         | 23289470 | Coil, Peaking, TRF4470AF      |
| L502         | 23289470 | Coil, Peaking, TRF4470AF      |
| L503         | 23289470 | Coil, Peaking, TRF4470AF      |
| L701         | 23238562 | Coil, Peaking, TRF4109AJ      |
| L702         | 23238562 | Coil, Peaking, TRF4109AJ      |
| L707         | 23238562 | Coil, Peaking, TRF4109AJ      |
| L708         | 23238562 | Coil, Peaking, TRF4109AJ      |
| L709         | 23238562 | Coil, Peaking, TRF4109AJ      |
| L710         | 23238562 | Coil, Peaking, TRF4109AJ      |
| L711         | 23238562 | Coil, Peaking, TRF4109AJ      |
| L712         | 23238562 | Coil, Peaking, TRF4109AJ      |
| L713         | 23238562 | Coil, Peaking, TRF4109AJ      |
| L714         | 23238562 | Coil, Peaking, TRF4109AJ      |
| L719         | 23232878 | Coil, Variable, TRF3503K      |
| L720         | 23289102 | Coil, Peaking, TRF4102AJ      |
| L721         | 23237805 | Coil, Peaking, TRF4222        |
| L722         | 23289102 | Coil, Peaking, TRF4102AJ      |
| L723         | 23237805 | Coil, Peaking, TRF4222        |
| L724         | 23289102 | Coil, Peaking, TRF4102AJ      |
| L725         | 23237805 | Coil, Peaking, TRF4222        |
| L726         | 23289102 | Coil, Peaking, TRF4102AJ      |
| L727         | 23237805 | Coil, Peaking, TRF4222        |
| L728         | 23289102 | Coil, Peaking, TRF4102AJ      |
| L729         | 23237805 | Coil, Peaking, TRF4222        |
| L730         | 23289102 | Coil, Peaking, TRF4102AJ      |
| L731         | 23237805 | Coil, Peaking, TRF4222        |
| L737         | 23289560 | Coil, Peaking, TRF4560        |
| L738         | 23289560 | Coil, Peaking, TRF4560        |
| L739         | 23289560 | Coil, Peaking, TRF4560        |
| L740         | 23289560 | Coil, Peaking, TRF4560        |
| L742         | 23103866 | Chip (Ferrite Bead), TEM2105T |
| L743         | 23103866 | Chip (Ferrite Bead), TEM2105T |
| L744         | 23103866 | Chip (Ferrite Bead), TEM2105T |
| L745         | 23103866 | Chip (Ferrite Bead), TEM2105T |
| L746         | 23103866 | Chip (Ferrite Bead), TEM2105T |
| L747         | 23103866 | Chip (Ferrite Bead), TEM2105T |
| L748         | 23103866 | Chip (Ferrite Bead), TEM2105T |
| L749         | 23103866 | Chip (Ferrite Bead), TEM2105T |
| L805         | 23248213 | Coil, Choke, TLN3481AH        |
| L806         | 23248213 | Coil, Choke, TLN3481AH        |
| L851         | 23103859 | Coil (Ferrite Bead), TEM2011  |
| L852         | 23103859 | Coil (Ferrite Bead), TEM2011  |
| L853         | 23103859 | Coil (Ferrite Bead), TEM2011  |
| L854         | 23103859 | Coil (Ferrite Bead), TEM2011  |
| L855         | 23103859 | Coil (Ferrite Bead), TEM2011  |
| L856         | 23103859 | Coil (Ferrite Bead), TEM2011  |
| L857         | 23248031 | Coil, Choke, TLN3274D         |
| L858         | 23248073 | Coil, Choke, TLN3299D         |
| L859         | 23248073 | Coil, Choke, TLN3299D         |
| L861         | 23103941 | Coil (Ferrite Bead), TEM2000  |

| Location No. | Part No. | Description                        |
|--------------|----------|------------------------------------|
| L862         | 23103859 | Coil (Ferrite Bead), TEM2011       |
| L881         | 23103859 | Coil (Ferrite Bead), TEM2011       |
| L882         | 23103859 | Coil (Ferrite Bead), TEM2011       |
| L883         | 23103859 | Coil (Ferrite Bead), TEM2011       |
| L884         | 23103859 | Coil (Ferrite Bead), TEM2011       |
| L885         | 23248073 | Coil, Choke, TLN3299D              |
| L886         | 23103859 | Coil (Ferrite Bead), TEM2011       |
| L887         | 23103859 | Coil (Ferrite Bead), TEM2011       |
| L888         | 23103859 | Coil (Ferrite Bead), TEM2011       |
| L889         | 23103859 | Coil (Ferrite Bead), TEM2011       |
| L891         | 23103859 | Coil (Ferrite Bead), TEM2011       |
| L892         | 23103859 | Coil (Ferrite Bead), TEM2011       |
| L893         | 23103859 | Coil (Ferrite Bead), TEM2011       |
| L894         | 23103859 | Coil (Ferrite Bead), TEM2011       |
| L895         | 23248087 | Coil, Choke, TLN3312D              |
| L896         | 23248087 | Coil, Choke, TLN3312D              |
| L897         | 23248087 | Coil, Choke, TLN3312D              |
| L911         | 23237987 | Coil, Peaking, TRF4100AC           |
| L961         | 23289100 | Coil, Peaking, TRF4100AF           |
| L962         | 23237991 | Coil, Peaking, TRF4479AC           |
| L963         | 23237975 | Coil, Peaking, TRF4101AC           |
| L7701        | 23103859 | Coil (Ferrite Bead), TEM2011       |
| L7702        | 23103859 | Coil (Ferrite Bead), TEM2011       |
| L7703        | 23103859 | Coil (Ferrite Bead), TEM2011       |
| L7704        | 23103859 | Coil (Ferrite Bead), TEM2011       |
| L7705        | 23103859 | Coil (Ferrite Bead), TEM2011       |
| L7706        | 23103859 | Coil (Ferrite Bead), TEM2011       |
| L7709        | 23238562 | Coil, Peaking, TRF4109AJ           |
| L7710        | 23238562 | Coil, Peaking, TRF4109AJ           |
| LA01         | 23289100 | Coil, Peaking, TRF4100AF           |
| LB01         | 23289100 | Coil, Peaking, TRF4100AF           |
| LR01         | 23289109 | Coil, Peaking, TRF41R0AF           |
| LR02         | 23289109 | Coil, Peaking, TRF41R0AF           |
| LV01         | 23103852 | Coil, Filter, TEM2028AH            |
| LV02         | 23103852 | Coil, Filter, TEM2028AH (TZ50V61)  |
| LV05         | 23289560 | Coil, Peaking, TRF4560             |
| LV06         | 23289560 | Coil, Peaking, TRF4560             |
| LV07         | 23238719 | Coil, Peaking, TRF4399AJ           |
| LV11         | 23289100 | Coil, Peaking, TRF4100AF           |
| LV13         | 23289100 | Coil, Peaking, TRF4100AF           |
| LV14         | 23289100 | Coil, Peaking, TRF4100AF           |
| LV20         | 23238705 | Coil, Peaking, TRF4560AJ (TZ50V61) |
| LV41         | 23289150 | Coil, Peaking, TRF4150AF           |
| LW01         | 23103852 | Coil, Filter, TEM2028AH            |
| LW02         | 23103852 | Coil, Filter, TEM2028AH            |
| LW02         | 23261974 | Coil, Choke, HC5-035               |
| LW03         | 23103852 | Coil, Filter, TEM2028AH            |
| LW04         | 23238710 | Coil, Peaking, TRF4220AJ           |
| LW04         | 23103859 | Coil (Ferrite Bead), TEM2011       |
| LW05         | 23103859 | Coil (Ferrite Bead), TEM2011       |
| LW07         | 23289220 | Coil, Peaking, TRF4220AF           |
| LY01         | 23289150 | Coil, Peaking, TRF4150AF           |
| LY22         | 23103852 | Coil, Filter, TEM2028AH            |
| LZ01         | 23289330 | Coil, Peaking, TRF4330AF           |
| LZ02         | 23103880 | Coil (Ferrite Bead), TEM2011Y      |
| LZ03         | 23289339 | Coil, Peaking, TRF43R3AF           |
| LZ04         | 23103880 | Coil (Ferrite Bead), TEM2011Y      |
| LZ05         | 23289100 | Coil, Peaking, TRF4100AF           |
| LZ06         | 23289270 | Coil, Peaking, TRF4270AF           |
| LZ08         | 23289689 | Coil, Peaking, TRF46R8AF           |
| LZ09         | 23289339 | Coil, Peaking, TRF43R3AF           |

| Location No.          | Part No. | Description                          |
|-----------------------|----------|--------------------------------------|
| T400                  | 23224364 | Transformer, Focus, TLN2168AH        |
| T401                  | 23224367 | Transformer, Horiz. Drive, TLN1098AH |
| △T461                 | 23236552 | Transformer, Flyback, TFB3078BD      |
| T461A                 | 23192917 | Cable, Anode                         |
| △T461Z                | 23236508 | Transformer, Flyback, TFB3078ZD      |
| T801                  | 23211698 | Line Filter, TRF3218AK               |
| T802                  | 23211712 | Line Filter, TRF3209BQ               |
| T840                  | 23213513 | Transformer, Power, TPW1459AZ        |
| T862                  | 23217406 | Transformer, Converter, TPW3406AS    |
| <b>SEMICONDUCTORS</b> |          |                                      |
| Q151                  | 23114530 | Transistor, 2SA933S-Q (TZ50V61)      |
| Q152                  | 23114530 | Transistor, 2SA933S-Q (TZ50V61)      |
| Q201                  | 23114528 | Transistor, 2SC1740S-Q (TZ60V61)     |
| Q202                  | 23114528 | Transistor, 2SC1740S-Q               |
| Q203                  | A6734590 | Transistor, 2SC752(G)TM-Y            |
| Q205                  | 23114528 | Transistor, 2SC1740S-Q               |
| Q261                  | 23114528 | Transistor, 2SC1740S-Q               |
| Q262                  | 23114530 | Transistor, 2SA933S-Q                |
| Q263                  | 23114530 | Transistor, 2SA933S-Q                |
| Q301                  | 23319787 | IC, LA7833S                          |
| Q301B                 | 70391355 | Screw, BITTB3X8SZN                   |
| Q302                  | B0384625 | IC, TA8859CP                         |
| Q340                  | A6317440 | Transistor, 2SC1815-Y                |
| Q341                  | A6534040 | Transistor, 2SA1015-Y                |
| Q350                  | A6317440 | Transistor, 2SC1815-Y                |
| Q351                  | A6534040 | Transistor, 2SA1015-Y                |
| Q352                  | A6002030 | Transistor, RN1203                   |
| Q353                  | A6534145 | Transistor, 2SA1020-Y(C)             |
| Q353                  | A6002030 | Transistor, RN1203                   |
| Q370                  | 23114530 | Transistor, 2SA933S-Q                |
| Q402                  | A6330069 | Transistor, 2SC2482 FA-1             |
| Q404                  | A6873777 | Transistor, 2SD2553                  |
| Q404B                 | 72471082 | Screw, BRDT2W3X10 SZN                |
| Q420                  | 23314141 | Transistor, 2SC3852                  |
| Q420B                 | 70391356 | Screw, BITTB3X10 SZN                 |
| Q421                  | 23114528 | Transistor, 2SC1740S-Q               |
| Q430                  | A6333346 | Transistor, 2SC2655-Y(C)             |
| Q460                  | A6625365 | Transistor, 2SB688-O(BS)             |
| Q460B                 | 72471082 | Screw, BRDT2W3X10 SZN                |
| Q461                  | A6317440 | Transistor, 2SC1815-Y                |
| Q462                  | A6317440 | Transistor, 2SC1815-Y                |
| Q470                  | 23114528 | Transistor, 2SC1740S-Q               |
| Q480                  | 23314246 | Transistor, 2SC2023 LF-4             |
| Q501                  | B0385677 | IC, TA1222BN                         |
| Q502                  | 23114528 | Transistor, 2SC1740S-Q               |
| Q503                  | 23114530 | Transistor, 2SA933S-Q                |
| Q601                  | 23318413 | IC, LA4282                           |
| Q612                  | 23314962 | Transistor, KTA1266Y                 |
| Q681                  | A6342200 | Transistor, 2SC2878-A                |
| Q682                  | A6342200 | Transistor, 2SC2878-A                |
| Q701                  | B0588213 | IC, T7K64(Z)                         |
| Q703                  | 23905014 | IC, LC78816M                         |
| Q704                  | 23905014 | IC, LC78816M                         |
| Q705                  | 23905014 | IC, LC78816M                         |

| Location No. | Part No. | Description                  |
|--------------|----------|------------------------------|
| Q707         | B0379550 | IC, TA8667P                  |
| Q709         | A6734590 | Transistor, 2SC752(G)TM-Y    |
| Q710         | 23314204 | Transistor, 2SC2412K,Q       |
| Q713         | 23904755 | IC, CAT24C04P                |
| Q715         | 23319808 | IC, M5218AP                  |
| Q717         | 23319808 | IC, M5218AP                  |
| Q719         | 23319808 | IC, M5218AP                  |
| Q751         | 23905094 | IC, STK392-110               |
| Q752         | 23905094 | IC, STK392-110               |
| Q754         | 23904521 | IC, AN7805                   |
| Q754B        | 70391356 | Screw, BITTB3X10 SZN         |
| Q755         | 23904525 | IC, AN7809                   |
| Q755B        | 70391356 | Screw, BITTB3X10 SZN         |
| Q756         | 23318841 | IC, AN79M09F                 |
| Q756B        | 70391356 | Screw, BITTB3X10 SZN         |
| Q757         | 23114528 | Transistor, 2SC1740S-Q       |
| Q758         | 23114528 | Transistor, 2SC1740S-Q       |
| Q759         | 23114530 | Transistor, 2SA933S-Q        |
| Q760         | 23314141 | Transistor, 2SC3852          |
| Q760B        | 70391356 | Screw, BITTB3X10 SZN         |
| Q761         | 23114530 | Transistor, 2SA933S-Q        |
| Q762         | 23114528 | Transistor, 2SC1740S-Q       |
| Q764         | B0487045 | IC, TC74HC4049AP             |
| Q765         | 23114528 | Transistor, 2SC1740S-Q       |
| Q766         | 23114528 | Transistor, 2SC1740S-Q       |
| Q767         | B0470662 | IC, TC4066BP                 |
| Q768         | 23114530 | Transistor, 2SA933S-Q        |
| Q769         | 23114528 | Transistor, 2SC1740S-Q       |
| Q770         | 23114530 | Transistor, 2SA933S-Q        |
| Q771         | A6533730 | Transistor, 2SA1012-Y        |
| Q771B        | 23035308 | Screw, BTB3X8SZN             |
| Q801         | 23906253 | IC, STR-Z4117                |
| Q830         | 23314141 | Transistor, 2SC3852          |
| Q830B        | 70391356 | Screw, BITTB3X10 SZN         |
| Q831         | 23905949 | IC, MC7805BT                 |
| Q831B        | 70391356 | Screw, BITTB3X10 SZN         |
| Q832         | 23905977 | IC, PQ09RD11(TZ50V61)        |
| Q832B        | 70391356 | Screw, BITTB3X10 SZN         |
| Q840         | 23318299 | IC, L78MR05                  |
| Q841         | 70129444 | IC, PST994D                  |
| Q843         | A6002050 | Transistor, RN1205           |
| Q846         | A6002050 | Transistor, RN1205           |
| Q862         | A8643112 | Photo Coupler, TLP621(GRL-L) |
| Q901         | A6372621 | Transistor, 2SC5360          |
| Q902         | A6317440 | Transistor, 2SC1815-Y        |
| Q911         | A6372621 | Transistor, 2SC5360          |
| Q913         | A6317440 | Transistor, 2SC1815-Y        |
| Q914         | A6321240 | Transistor, 2SC2120-Y        |
| Q921         | A6372621 | Transistor, 2SC5360          |
| Q922         | A6317440 | Transistor, 2SC1815-Y        |
| Q961         | A6317440 | Transistor, 2SC1815-Y        |
| Q962         | A6509140 | Transistor, 2SA562TMY        |
| Q963         | A6317440 | Transistor, 2SC1815-Y        |
| Q964         | A6534040 | Transistor, 2SA1015-Y        |
| Q965         | A6317440 | Transistor, 2SC1815-Y        |
| Q966         | A6534040 | Transistor, 2SA1015-Y        |
| Q971         | A6317440 | Transistor, 2SC1815-Y        |
| Q972         | A6534040 | Transistor, 2SA1015-Y        |
| Q973         | A6317440 | Transistor, 2SC1815-Y        |
| Q974         | A6534040 | Transistor, 2SA1015-Y        |
| Q975         | A6317440 | Transistor, 2SC1815-Y        |
| Q976         | A6317440 | Transistor, 2SC1815-Y        |
| Q981         | A6534040 | Transistor, 2SA1015-Y        |
| Q982         | A6534040 | Transistor, 2SA1015-Y        |

| Location No. | Part No. | Description              |
|--------------|----------|--------------------------|
| Q983         | A6317440 | Transistor, 2SC1815-Y    |
| Q984         | A6534040 | Transistor, 2SA1015-Y    |
| Q4833        | B0345651 | IC, TA7508P(J)           |
| QA01         | 23906891 | IC, 8700CSN-151(TZ50V61) |
| QA01         | 23906948 | IC, 8700CSN-153(TZ50V51) |
| QA02         | 23905321 | IC, 24LC16B-I/P          |
| QB01         | 23114528 | Transistor, 2SC1740S-Q   |
| QB03         | A6002050 | Transistor, RN1205       |
| QB13         | 23114530 | Transistor, 2SA933S-Q    |
| QB14         | 23114530 | Transistor, 2SA933S-Q    |
| QB30         | 23114528 | Transistor, 2SC1740S-Q   |
| QB61         | 23114528 | Transistor, 2SC1740S-Q   |
| QB81         | A6342200 | Transistor, 2SC2878-A    |
| QB82         | A6342200 | Transistor, 2SC2878-A    |
| QB83         | 23114530 | Transistor, 2SA933S-Q    |
| QB84         | 23114528 | Transistor, 2SC1740S-Q   |
| QB85         | 23114530 | Transistor, 2SA933S-Q    |
| QB86         | 23114530 | Transistor, 2SA933S-Q    |
| QB87         | 23114530 | Transistor, 2SA933S-Q    |
| QB88         | 23114530 | Transistor, 2SA933S-Q    |
| QB92         | 23114528 | Transistor, 2SC1740S-Q   |
| QD01         | B0377277 | IC, TA173AP              |
| QR01         | 23906910 | IC, MB90096-179          |
| QR02         | 23114528 | Transistor, 2SC1740S-Q   |
| QR03         | 23114530 | Transistor, 2SA933S-Q    |
| QR04         | 70119743 | IC, PST523D              |
| QR05         | B0487584 | IC, TC74HC4053AP         |
| QR06         | 23114528 | Transistor, 2SC1740S-Q   |
| QR07         | 23114528 | Transistor, 2SC1740S-Q   |
| QR08         | 23114530 | Transistor, 2SA933S-Q    |
| QR09         | 23114530 | Transistor, 2SA933S-Q    |
| QR10         | 23114530 | Transistor, 2SA933S-Q    |
| QR11         | 23114530 | Transistor, 2SA933S-Q    |
| QR12         | 23114530 | Transistor, 2SA933S-Q    |
| QR13         | 23114530 | Transistor, 2SA933S-Q    |
| QR14         | 23114530 | Transistor, 2SA933S-Q    |
| QR15         | 23114530 | Transistor, 2SA933S-Q    |
| QR16         | 23114530 | Transistor, 2SA933S-Q    |
| QR17         | 23119764 | IC, TC4053BP (TZ50V51)   |
| QS01         | A6342200 | Transistor, 2SC2878-A    |
| QS11         | A6342200 | Transistor, 2SC2878-A    |
| QS12         | A6012040 | Transistor, RN2204       |
| QS13         | 23314965 | Transistor, KTC3198 Y    |
| QS14         | 23314965 | Transistor, KTC3198 Y    |
| QS101        | 23906596 | IC, BA4558               |
| QS102        | A6012040 | Transistor, RN2204       |
| QS103        | A6342200 | Transistor, 2SC2878-A    |
| QS104        | A6342200 | Transistor, 2SC2878-A    |
| QV01         | B0384761 | IC, TA8851CN             |
| QV20         | A6002040 | Transistor, RN1204       |
| QV21         | 23114528 | Transistor, 2SC1740S-Q   |
| QV22         | 23114530 | Transistor, 2SA933S-Q    |
| QV23         | 23114530 | Transistor, 2SA933S-Q    |
| QV40         | 23114528 | Transistor, 2SC1740S-Q   |
| QV41         | 23114528 | Transistor, 2SC1740S-Q   |
| QV42         | 23114530 | Transistor, 2SA933S-Q    |
| QV43         | 23114530 | Transistor, 2SA933S-Q    |
| QV44         | 23114528 | Transistor, 2SC1740S-Q   |
| QV48         | 23114528 | Transistor, 2SC1740S-Q   |
| QW01         | B0470532 | IC, TC4053BP             |
| QW02         | 23114528 | Transistor, 2SC1740S-Q   |
| QW03         | 23114528 | Transistor, 2SC1740S-Q   |
| QW04         | 23114528 | Transistor, 2SC1740S-Q   |
| QW05         | 23114528 | Transistor, 2SC1740S-Q   |

| Location No. | Part No. | Description               |
|--------------|----------|---------------------------|
| QW06         | A6317440 | Transistor, 2SC1815-Y     |
| QW07         | A6734590 | Transistor, 2SC752(G)TM-Y |
| QW09         | 23114528 | Transistor, 2SC1740S-Q    |
| QW10         | 23114530 | Transistor, 2SA933S-Q     |
| QW10         | 23114530 | Transistor, 2SA933S-Q     |
| QW11         | 23114528 | Transistor, 2SC1740S-Q    |
| QW11         | 23314701 | Transistor, 2SA1186A      |
| QW12         | 23314705 | Transistor, 2SD1763A      |
| QW17         | A6002010 | Transistor, RN1201        |
| QW18         | 23114530 | Transistor, 2SA933S-Q     |
| QW19         | A6317440 | Transistor, 2SC1815-Y     |
| QW20         | A6317440 | Transistor, 2SC1815-Y     |
| QY10         | 23114528 | Transistor, 2SC1740S-Q    |
| QY11         | A6002040 | Transistor, RN1204        |
| QY26         | 23114528 | Transistor, 2SC1740S-Q    |
| QZ01         | B0410867 | IC, TC90A45P              |
| QZ02         | 23114528 | Transistor, 2SC1740S-Q    |
| QZ03         | 23114528 | Transistor, 2SC1740S-Q    |
| QZ04         | 23114528 | Transistor, 2SC1740S-Q    |
| D101         | 23316411 | Diode, 1SS184             |
| D201         | 23118859 | Diode, 1SS133             |
| D215         | 23118859 | Diode, 1SS133             |
| D216         | 23118859 | Diode, 1SS133             |
| D217         | 23118859 | Diode, 1SS133             |
| D218         | 23118859 | Diode, 1SS133             |
| D219         | 23118859 | Diode, 1SS133             |
| D220         | 23118859 | Diode, 1SS133             |
| D221         | 23118859 | Diode, 1SS133             |
| D301         | 23118094 | Diode, EU2A               |
| D302         | 23118094 | Diode, EU2A               |
| D303         | 23118859 | Diode, 1SS133             |
| D308         | 23118822 | Diode, ERB12-02           |
| D309         | 23118822 | Diode, ERB12-02           |
| D315         | 23118859 | Diode, 1SS133             |
| D320         | 23316677 | Diode, Zener, MTZJ6.8A    |
| D332         | 23316794 | Diode, SC570A             |
| D340         | 23118859 | Diode, 1SS133             |
| D341         | 23316675 | Diode, Zener, MTZJ6.2B    |
| D350         | 23118859 | Diode, 1SS133             |
| D351         | 23118859 | Diode, 1SS133             |
| D352         | 23118859 | Diode, 1SS133             |
| D353         | 23316672 | Diode, Zener, MTZJ5.6B    |
| D354         | 23118859 | Diode, 1SS133             |
| D370         | 23316672 | Diode, Zener, MTZJ5.6B    |
| D371         | 23118859 | Diode, 1SS133             |
| D406         | A7978850 | Diode, S5295G             |
| D408         | 23118338 | Diode, RU4AM              |
| D421         | 23118859 | Diode, 1SS133             |
| D427         | 23316680 | Diode, Zener, MTZJ7.5A    |
| D428         | 23316751 | Diode, Zener, MTZJ30C     |
| D429         | 23316751 | Diode, Zener, MTZJ30C     |
| D430         | 23316691 | Diode, Zener, MTZJ10C     |
| D431         | 23118859 | Diode, 1SS133             |
| D441         | 23316726 | Diode, Zener, MTZJ15C     |
| D443         | 23118338 | Diode, RU4AM              |
| D444         | 23118338 | Diode, RU4AM              |
| D448         | 23118056 | Diode, AG01               |
| D460         | A7568480 | Diode, TVR-1G             |
| D461         | 23316582 | Diode, ERC20-06           |
| D463         | 23118859 | Diode, 1SS133             |
| D464         | 23316718 | Diode, Zener, MTZJ12A     |
| D465         | 23316718 | Diode, Zener, MTZJ12A     |
| D467         | A7568752 | Diode, 1S1887A            |
| D470         | 23118859 | Diode, 1SS133             |

| Location No. | Part No. | Description            |
|--------------|----------|------------------------|
| D471         | A7568460 | Diode, TVR-1B          |
| D474         | 23316719 | Diode, Zener, MTZJ12B  |
| D481         | 23316726 | Diode, Zener, MTZJ15C  |
| D482         | 23118094 | Diode, EU2A            |
| D483         | 23316720 | Diode, Zener, MTZJ12C  |
| D484         | 23316678 | Diode, Zener, MTZJ6.8B |
| D486         | 23118859 | Diode, 1SS133          |
| D487         | 23118094 | Diode, EU2A            |
| D488         | 23118859 | Diode, 1SS133          |
| D489         | 23316659 | Diode, Zener, MTZJ3.6B |
| D512         | 23118859 | Diode, 1SS133          |
| D513         | 23316687 | Diode, Zener, MTZJ9.1B |
| D601         | 23118859 | Diode, 1SS133          |
| D602         | 23118859 | Diode, 1SS133          |
| D603         | 23118859 | Diode, 1SS133          |
| D604         | 23118859 | Diode, 1SS133          |
| D607         | 23316737 | Diode, Zener, MTZJ22A  |
| D608         | 23316737 | Diode, Zener, MTZJ22A  |
| D611         | 23118859 | Diode, 1SS133          |
| D612         | 23118859 | Diode, 1SS133          |
| D614         | 23118859 | Diode, 1SS133          |
| D615         | 23118859 | Diode, 1SS133          |
| D616         | 23316672 | Diode, Zener, MTZJ5.6B |
| D701         | 23115537 | Diode, 1SS131          |
| D702         | 23115537 | Diode, 1SS131          |
| D703         | 23115537 | Diode, 1SS131          |
| D704         | 23115537 | Diode, 1SS131          |
| D801         | 23316784 | Diode, RBV-1506        |
| D801B        | 70391355 | Screw, BITTB3X8SZN     |
| D830         | 23316673 | Diode, Zener, MTZJ5.6C |
| D840         | 23316962 | Diode, S1WBA20 4101    |
| D845         | 23118859 | Diode, 1SS133          |
| D846         | 23118859 | Diode, 1SS133          |
| D851         | 23316402 | Diode, RL4Z            |
| D852         | 23316402 | Diode, RL4Z            |
| D853         | 23316402 | Diode, RL4Z            |
| D854         | 23316402 | Diode, RL4Z            |
| D855         | 23316813 | Diode, EG1             |
| D856         | 23316813 | Diode, EG1             |
| D862         | 23118094 | Diode, EU2A            |
| D864         | 23316813 | Diode, EG1             |
| D873         | 23316690 | Diode, Zener, MTZJ10B  |
| D875         | 23316689 | Diode, Zener, MTZJ10A  |
| D876         | 23316747 | Diode, Zener, MTZJ27C  |
| D881         | 23118859 | Diode, 1SS133          |
| D882         | 23316531 | Diode, RG4             |
| D883         | 23316531 | Diode, RG4             |
| D884         | 23316531 | Diode, RG4             |
| D885         | 23316531 | Diode, RG4             |
| D886         | 23316399 | Diode, EL1Z            |
| D887         | 23316399 | Diode, EL1Z            |
| D888         | 23316399 | Diode, EL1Z            |
| D889         | 23316399 | Diode, EL1Z            |
| D891         | 23316714 | Diode, RL2Z            |
| D892         | 23316714 | Diode, RL2Z            |
| D893         | 23316714 | Diode, RL2Z            |
| D894         | 23316714 | Diode, RL2Z            |
| D899         | 24019471 | Varistor, TNR10V271K2  |
| D901         | 23118859 | Diode, 1SS133          |
| D902         | 23118859 | Diode, 1SS133          |
| D903         | 23118859 | Diode, 1SS133          |
| D911         | 23118859 | Diode, 1SS133          |
| D912         | 23118859 | Diode, 1SS133          |
| D913         | 23118859 | Diode, 1SS133          |

| Location No. | Part No. | Description                      |
|--------------|----------|----------------------------------|
| D915         | 23118859 | Diode, 1SS133                    |
| D921         | 23118859 | Diode, 1SS133                    |
| D922         | 23118859 | Diode, 1SS133                    |
| D924         | 23118859 | Diode, 1SS133                    |
| D925         | 23118859 | Diode, 1SS133                    |
| D926         | 23118859 | Diode, 1SS133                    |
| D961         | 23118859 | Diode, 1SS133                    |
| D962         | 23118859 | Diode, 1SS133                    |
| D965         | 23118859 | Diode, 1SS133                    |
| D966         | 23118859 | Diode, 1SS133                    |
| D7701        | 23118859 | Diode, 1SS133                    |
| D7702        | 23115532 | Diode, ERB12-01                  |
| D7703        | 23316751 | Diode, Zener, MTZJ30C            |
| D7705        | 23118859 | Diode, 1SS133                    |
| D7706        | 23118859 | Diode, 1SS133                    |
| D7707        | 23118859 | Diode, 1SS133                    |
| D7708        | 23118859 | Diode, 1SS133                    |
| D7709        | 23316675 | Diode, Zener, MTZJ6.2B           |
| D7710        | 23316716 | Diode, Zener, MTZJ11B            |
| D7711        | 23316716 | Diode, Zener, MTZJ11B            |
| D7712        | 23118859 | Diode, 1SS133                    |
| D7713        | 23118859 | Diode, 1SS133                    |
| D7717        | 23316675 | Diode, Zener, MTZJ6.2B           |
| D7718        | 23316675 | Diode, Zener, MTZJ6.2B           |
| D7719        | 23316675 | Diode, Zener, MTZJ6.2B           |
| D7720        | 23316675 | Diode, Zener, MTZJ6.2B           |
| D7721        | 23316675 | Diode, Zener, MTZJ6.2B           |
| D7722        | 23316675 | Diode, Zener, MTZJ6.2B           |
| DA01         | 23316675 | Diode, Zener, MTZJ6.2B           |
| DA02         | 23316675 | Diode, Zener, MTZJ6.2B           |
| DA10         | 23118859 | Diode, 1SS133                    |
| DA11         | 23118859 | Diode, 1SS133                    |
| DA37         | 23118859 | Diode, 1SS133                    |
| DA38         | 23118859 | Diode, 1SS133                    |
| DA43         | 23118859 | Diode, 1SS133                    |
| DA44         | 23118859 | Diode, 1SS133                    |
| DA45         | 23118859 | Diode, 1SS133                    |
| DA46         | 23118859 | Diode, 1SS133                    |
| DB01         | 23358493 | LED, SPR54MVWFLMN                |
| DB01         | 23316675 | Diode, Zener, MTZJ6.2B           |
| DB13         | 23358522 | LED, SIR-56SB3F                  |
| DB30         | 23118859 | Diode, 1SS133                    |
| DR01         | 23118859 | Diode, 1SS133                    |
| DR02         | 23118859 | Diode, 1SS133                    |
| DR03         | 23118859 | Diode, 1SS133                    |
| DR04         | 23118859 | Diode, 1SS133                    |
| DR05         | 23316675 | Diode, Zener, MTZJ6.2B           |
| DV01         | 23316686 | Diode, Zener, MTZJ9.1A           |
| DV02         | 23316686 | Diode, Zener, MTZJ9.1A           |
| DV03         | 23316686 | Diode, Zener, MTZJ9.1A           |
| DV07         | 23316686 | Diode, Zener, MTZJ9.1A           |
| DV08         | 23316686 | Diode, Zener, MTZJ9.1A (TZ50V61) |
| DV09         | 23316686 | Diode, Zener, MTZJ9.1A (TZ50V61) |
| DV11         | 23316686 | Diode, Zener, MTZJ9.1A           |
| DV12         | 23316686 | Diode, Zener, MTZJ9.1A           |
| DV13         | 23316686 | Diode, Zener, MTZJ9.1A           |
| DV17         | 23316686 | Diode, Zener, MTZJ9.1A           |
| DV25         | 23118859 | Diode, 1SS133                    |
| DV60         | 23118859 | Diode, 1SS133                    |
| DW04         | 23118859 | Diode, 1SS133                    |
| DW05         | 23118859 | Diode, 1SS133                    |
| DW21         | 23118859 | Diode, 1SS133                    |

| Location No.         | Part No. | Description                   |
|----------------------|----------|-------------------------------|
| DY10                 | 23118859 | Diode, 1SS133                 |
| <b>MISCELLANEOUS</b> |          |                               |
| B110                 | 23470547 | Back Terminal Board (TZ50V61) |
| B110                 | 23470565 | Back Terminal Board (TZ50V51) |
| B224                 | 23035412 | Screw, BTB4X12SZN             |
| B225                 | 23035412 | Screw, BTB4X12SZN             |
| B230                 | 23037312 | Screw, BTBW3X12SZN            |
| B232                 | 23037312 | Screw, BTBW3X12SZN            |
| B233                 | 23035412 | Screw, BTB4X12SZN             |
| B234                 | 23035412 | Screw, BTB4X12SZN             |
| B235                 | 23035310 | Screw, BTB3X10SZN             |
| B236                 | 23037312 | Screw, BTBW3X12SZN            |
| B237                 | 23035412 | Screw, BTB4X12SZN             |
| B238                 | 23035412 | Screw, BTB4X12SZN             |
| B251                 | 23037312 | Screw, BTBW3X12SZN            |
| BB10                 | 23903022 | Socket, 8P, 2.5               |
| BB100                | 23368627 | Plug, 8P, 2.5                 |
| BB11                 | 23903022 | Socket, 8P, 2.5               |
| BB20                 | 23903022 | Socket, 8P, 2.5               |
| BB200                | 23368627 | Plug, 8P, 2.5                 |
| BB21                 | 23903022 | Socket, 8P, 2.5               |
| BB30                 | 23903022 | Socket, 8P, 2.5               |
| BB300                | 23368627 | Plug, 8P, 2.5                 |
| BB31                 | 23903022 | Socket, 8P, 2.5               |
| F470                 | 23144849 | Fuse, 2.0A                    |
| F470A                | 23165433 | Holder, Fuse                  |
| F801                 | 23144481 | Fuse, 7.0A, 125V              |
| F801A                | 23165433 | Holder, Fuse                  |
| F850                 | 23144888 | Fuse, 5.0A, 125V              |
| F850A                | 23165433 | Holder, Fuse                  |
| F860                 | 23144456 | Fuse, 5.0A, 125V              |
| F889                 | 23144893 | Fuse, 3.15A                   |
| F889A                | 23165433 | Holder, Fuse                  |
| F890                 | 23144893 | Fuse, 3.15A                   |
| F890A                | 23165433 | Holder, Fuse                  |
| G005                 | 23118859 | Diode, 1SS133                 |
| G011                 | 24366101 | CF, 100 ohm                   |
| G012                 | 24366101 | CF, 100 ohm                   |
| G023                 | 24327180 | MF, 18 ohm, $\pm 1\%$ , 1/4W  |
| G402                 | 24366102 | CF, 1k ohm                    |
| H002                 | 23148349 | Module, MVUS35A               |
| H003                 | 23344421 | RF Switch, RSU133X6           |
| H003A                | 23740989 | F-Connector                   |
| KB11                 | 23904946 | Remote Sensor, RPM-676CBR-S   |
| P121                 | 23368520 | Plug, 20P 2MM                 |
| P122                 | 23902863 | Socket, 20P 2MM               |
| P301                 | 23902863 | Socket, 20P 2MM               |
| P350                 | 23368520 | Plug, 20P 2MM                 |
| P420                 | 23368020 | Plug, 2P 5MM                  |
| P430                 | 23368020 | Plug, 2P 5MM                  |
| P513                 | 23902863 | Socket, 20P 2MM               |
| P521                 | 23368520 | Plug, 20P 2MM                 |
| P522                 | 23902863 | Socket, 20P 2MM               |
| P701                 | 23368520 | Plug, 20P 2MM                 |
| P702                 | 23368520 | Plug, 20P 2MM                 |
| P708                 | 23902863 | Socket, 20P 2MM               |
| P709                 | 23902863 | Socket, 20P 2MM               |
| P713                 | 23164787 | Plug, 7P                      |
| P714                 | 23164787 | Plug, 7P                      |
| P715                 | 23164787 | Plug, 7P                      |

| Location No.               | Part No. | Description                            |
|----------------------------|----------|----------------------------------------|
| P720                       | 23164786 | Plug, 6P                               |
| P801                       | 23372078 | Power Cord                             |
| P808                       | 23164722 | Plug, 5P                               |
| P818                       | 23164722 | Plug, 5P                               |
| PV02                       | 23365819 | Jack, 1S3P                             |
| PV05                       | 23368520 | Plug, 20P 2MM                          |
| PZ01                       | 23368006 | Plug, 8P, 2.5MM                        |
| PZ02                       | 23902743 | Socket, 8P, 2.5MM                      |
| S602                       | 23145412 | Switch, Slide, 2C2P(TZ50V61)           |
| SA01                       | 23145226 | Switch, Push, 1C1P                     |
| SA02                       | 23145226 | Switch, Push, 1C1P                     |
| SA03                       | 23145226 | Switch, Push, 1C1P                     |
| SA04                       | 23145226 | Switch, Push, 1C1P                     |
| SA05                       | 23145226 | Switch, Push, 1C1P                     |
| SA06                       | 23145226 | Switch, Push, 1C1P                     |
| SA07                       | 23145226 | Switch, Push, 1C1P                     |
| SA08                       | 23145226 | Switch, Push, 1C1P                     |
| SA09                       | 23145226 | Switch, Push, 1C1P                     |
| SR81                       | 23146564 | Relay, DC12V                           |
| SR82                       | 23146564 | Relay, DC12V                           |
| V901A                      | 23902019 | Socket, CRT, 10P                       |
| V902A                      | 23902019 | Socket, CRT, 10P                       |
| V903A                      | 23902019 | Socket, CRT, 10P                       |
| W661                       | 23151232 | Speaker, SPK-1235, 160x160mm, 8 ohm    |
| W662                       | 23151232 | Speaker, SPK-1235, 160x160mm, 8 ohm    |
| X401                       | 23153721 | Ceramic Resonator, 503kHz, TCR1023     |
| X501                       | 23153961 | Crystal, 3.58MHz                       |
| XA01                       | 23153325 | Ceramic Resonator, 8.00M, TCR1056      |
| XB01                       | 23153325 | Ceramic Resonator, 8.00M, TCR1056      |
| Z410                       | 23110841 | Focus Pack, TPA6030                    |
| Z410A                      | 23505177 | Focus Cable                            |
| Z450                       | 24082877 | CR Block, TPA5007                      |
| Z450A                      | 23504953 | Cable, Anode                           |
| Z702                       | 23103823 | Filter, TEM2027D                       |
| Z703                       | 23103823 | Filter, TEM2027D                       |
| Z704                       | 23103823 | Filter, TEM2027D                       |
| Z705                       | 23103823 | Filter, TEM2027D                       |
| Z706                       | 23103823 | Filter, TEM2027D                       |
| Z707                       | 23103823 | Filter, TEM2027D                       |
| Z711                       | 23103823 | Filter, TEM2027D                       |
| Z712                       | 23103823 | Filter, TEM2027D                       |
| △Z801                      | 23905010 | IC, HIC1019                            |
| ZM01                       | 23262280 | Coil, IF, TRF1196D                     |
| ZT01                       | 70108925 | Ceramic Resonator, TCR1071             |
| ZT01                       | 70108925 | Ceramic Resonator, TCR1071             |
| ZY01                       | 23148292 | Module, MWUS13H, NTSC/US (TZ50V61)     |
| ZY01                       | 23148353 | Module, MKMU32, MULTI PICTURE(TZ50V51) |
| <b>PC BOARD ASSEMBLIES</b> |          |                                        |
| * E031Z                    |          | CRT-D/R Board, PB8759A1 (TZ50V61)      |
| * E031Z                    |          | CRT-D/R Board, PB8759B1 (TZ50V51)      |
| * E032Z                    |          | CRT-D/G Board, PB8759A2 (TZ50V61)      |
| * E032Z                    |          | CRT-D/G Board, PB8759B2 (TZ50V51)      |

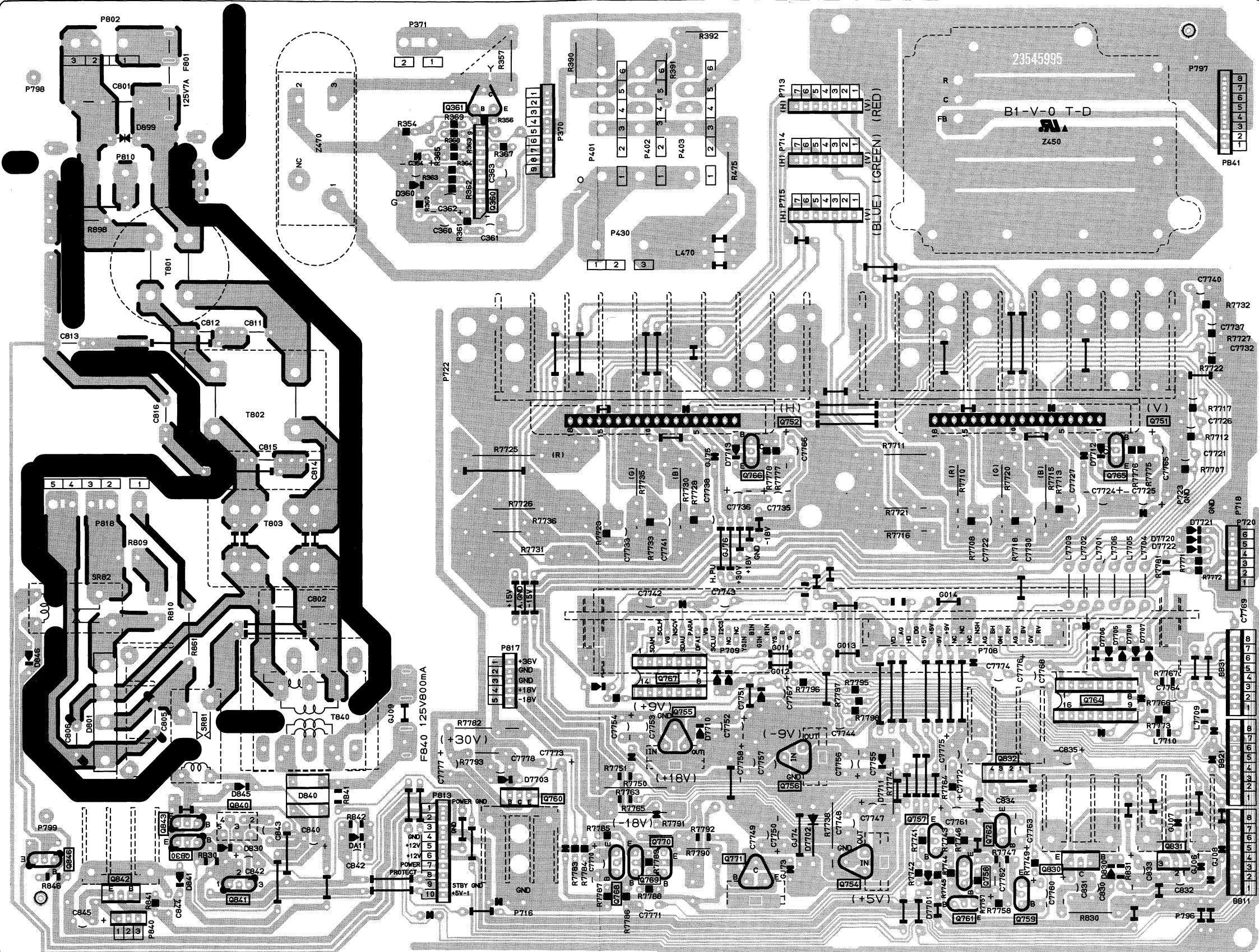
| Location No.        | Part No. | Description                         |
|---------------------|----------|-------------------------------------|
| * E033Z             |          | CRT-D/B Board, PB8759A3 (TZ50V61)   |
| * E033Z             |          | CRT-D/B Board, PB8759B3 (TZ50V51)   |
| * E034Z             |          | FRONT-CON Board, PB8759A4 (TZ50V61) |
| * E034Z             |          | FRONT-CON Board, PB8759B4 (TZ50V51) |
| * E035Z             |          | FRONT-IN Board, PB8759A5 (TZ50V61)  |
| * E035Z             |          | FRONT-IN Board, PB8759B5 (TZ50V51)  |
| * E036Z             |          | SVM Board, PB8759A6                 |
| * E037Z             |          | DIGI-COMB Board, PB8759A7 (TZ50V61) |
| * E037Z             |          | DIGI-COMB Board, PB8759B7 (TZ50V51) |
| * E040Z             |          | REM Board, PB8759A10 (TZ50V61)      |
| * E040Z             |          | REM Board, PB8759B10 (TZ50V51)      |
| * U421              |          | DPC Board, PB8760A1 (TZ50V61)       |
| * U421              |          | DPC Board, PB8760B1 (TZ50V51)       |
| * U701              |          | D-CONVER Board, PB6340              |
| * U801              |          | CONV-OUT Board, PB8757A (TZ50V61)   |
| * U801              |          | CONV-OUT Board, PB8757B (TZ50V51)   |
| * U821              |          | Power Board, PB8760A2 (TZ50V61)     |
| * U821              |          | Power Board, PB8760B2 (TZ50V51)     |
| * U901              |          | Signal Board, PB8755A (TZ50V61)     |
| * U901              |          | Signal Board, PB8755B (TZ50V51)     |
| * UM01              |          | VCD/MAICON Board, PB8758A (TZ50V61) |
| * UM01              |          | VCD/MAICON Board, PB8758B (TZ50V51) |
| * UV01              |          | A/V Board, PB8760A3 (TZ50V61)       |
| * UV01              |          | A/V Board, PB8760B3 (TZ50V51)       |
| <b>PICTURE TUBE</b> |          |                                     |
| △ V901R             | 23796001 | Projection Tube Ass'y 50HR          |
| △ V902G             | 23796002 | Projection Tube Ass'y 50HG          |
| △ V903B             | 23796003 | Projection Tube Ass'y 50HB          |
| <b>TUNER</b>        |          |                                     |
| H001                | 23321342 | Tuner, ELA22L                       |
| HY01                | 23321333 | Tuner, ELA23LV(TZ50V61)             |
| <b>ACCESSOIRES</b>  |          |                                     |
| K912                | 23306269 | Remote Hand Unit, CT-9954 (TZ50V61) |
| K912                | 23306267 | Remote Hand Unit, CT-9952 (TZ50V51) |
| AT03                | 23588181 | Battery Cover                       |
| Y101                | 23563585 | Owner's Manual, English, TZ50V61    |

| Location No.         | Part No. | Description                      |
|----------------------|----------|----------------------------------|
| Y101                 | 23563625 | Owner's Manual, English, TZ50V51 |
| Y101F                | 23563586 | Owner's Manual, French, TZ50V61  |
| Y101F                | 23563626 | Owner's Manual, French, TZ50V51  |
| <b>CABINET PARTS</b> |          |                                  |
| A101                 | 23411115 | Wood Cabinet                     |
| A102                 | 23527067 | Speaker Grille, R                |
| A103                 | 23527068 | Speaker Grille, L                |
| A126                 | 23445281 | Button, Catch Male               |
| A127                 | 23445281 | Button, Catch Male               |
| A150                 | 23411114 | Light Box                        |
| A160                 | 23469228 | Caster                           |
| A175                 | 23421928 | Piece, Bezel Hanging             |
| A201                 | 23549258 | Bezel                            |
| A202                 | 23450099 | Control Panel(TV50V61)           |
| A202                 | 23450142 | Control Panel(TV50V51)           |
| A213                 | 23427652 | Door                             |
| A268                 | 23450101 | Front Panel                      |
| A322                 | 23445282 | Button, Catch Female             |
| A424                 | 23549259 | Back Board                       |
| A505                 | 72471068 | Screw, BIDT2 4X12BZ              |
| A514                 | 23030815 | Screw, PTD #6X 3/4               |
| A518                 | 23030815 | Screw, PTD #6X 3/4               |
| A519                 | 23030815 | Screw, PTD #6X 3/4               |
| A521                 | 23030815 | Screw, PTD #6X 3/4               |
| A533                 | 23030815 | Screw, PTD #6X 3/4               |
| A535                 | 23030815 | Screw, PTD #6X 3/4               |
| A539                 | 23030815 | Screw, PTD #6X 3/4               |
| A541                 | 23030815 | Screw, PTD #6X 3/4               |
| A543                 | 72471068 | Screw, BIDT2 4X12BZ              |
| A544                 | 23030815 | Screw, PTD #6X 3/4               |
| A701                 | 23525844 | Case                             |
| A703                 | 23935847 | Packing, Top                     |
| A708                 | 23935848 | Packing, Bottom                  |
| A721                 | 23943628 | Cover, Poly                      |
| K111                 | 23430111 | Delta, 77-A/BAssembly            |
| K113                 | 23430111 | Delta, 77-A/BAssembly            |
| K501                 | 23837513 | Lenti Sheet, SCREEN50KH-L        |
| K502                 | 23430608 | Fresnel Sheet, SCREEN50KJ-F      |
| K601                 | 23430313 | Mirror, MIRROR48(E)              |

**BOTTOM (FOIL) SIDE**

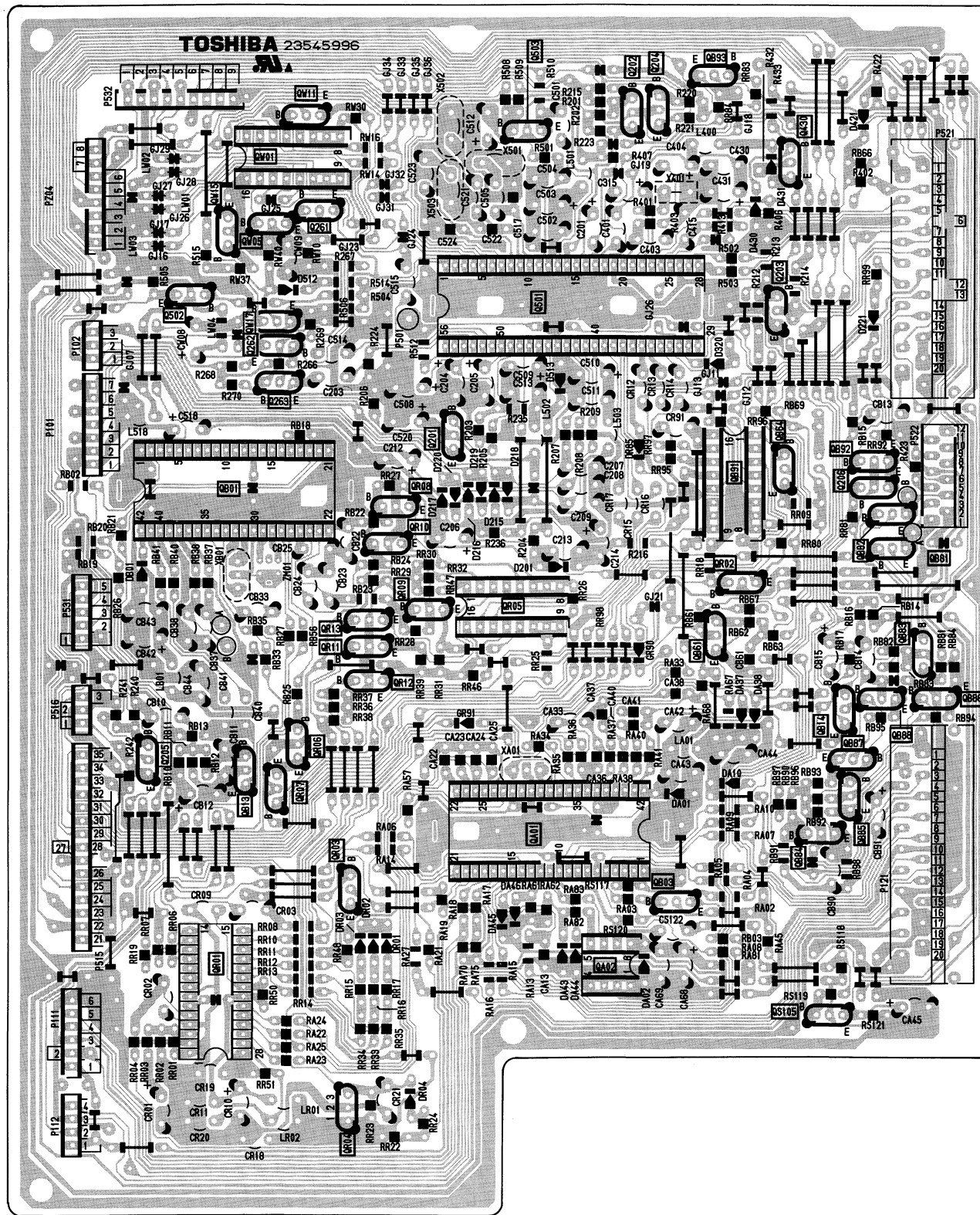


**BOTTOM (FOIL) SIDE**



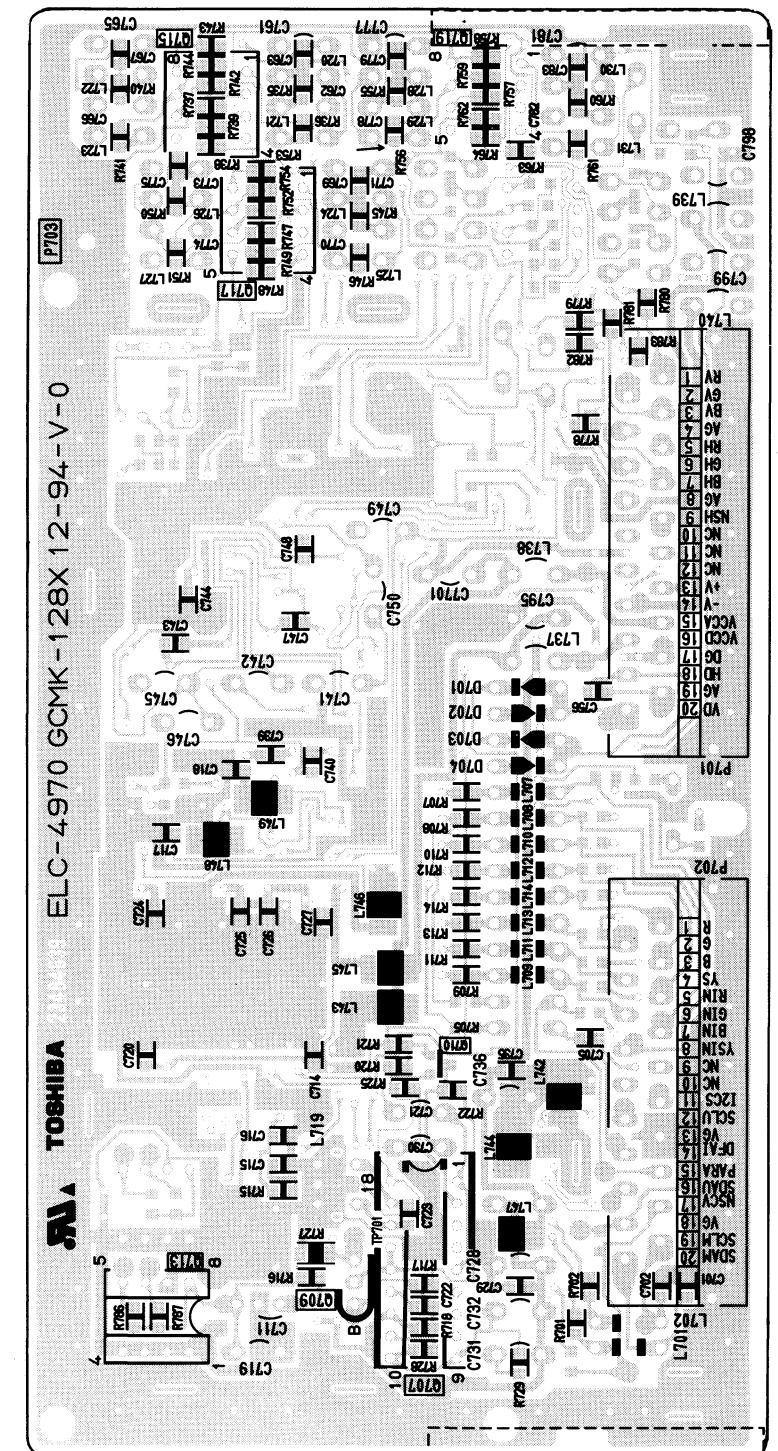
# VCD/MAICON BOARD PB8758A

BOTTOM (FOIL) SIDE

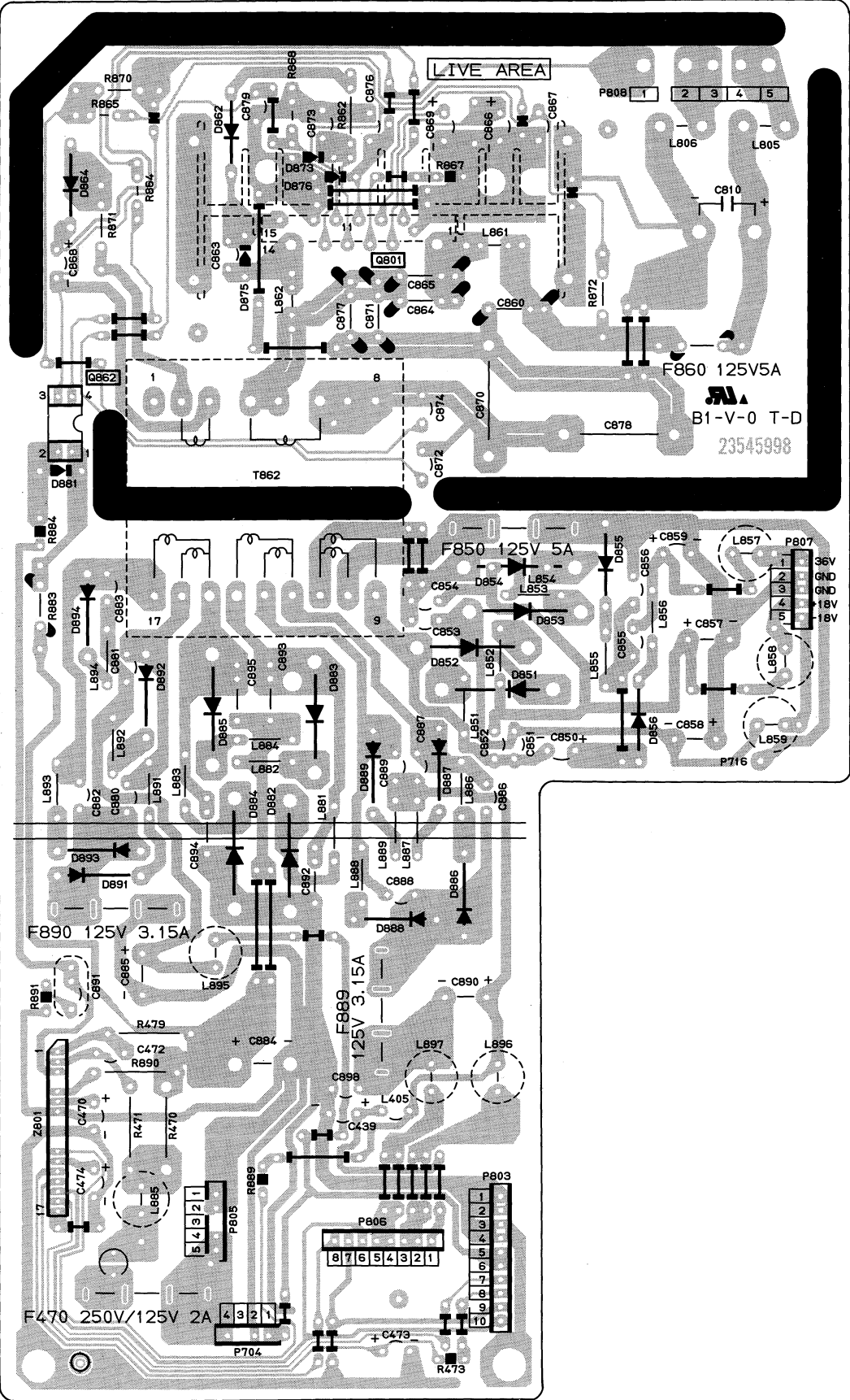


# DIGI-CONVER BOARD PB6340 (Reference)

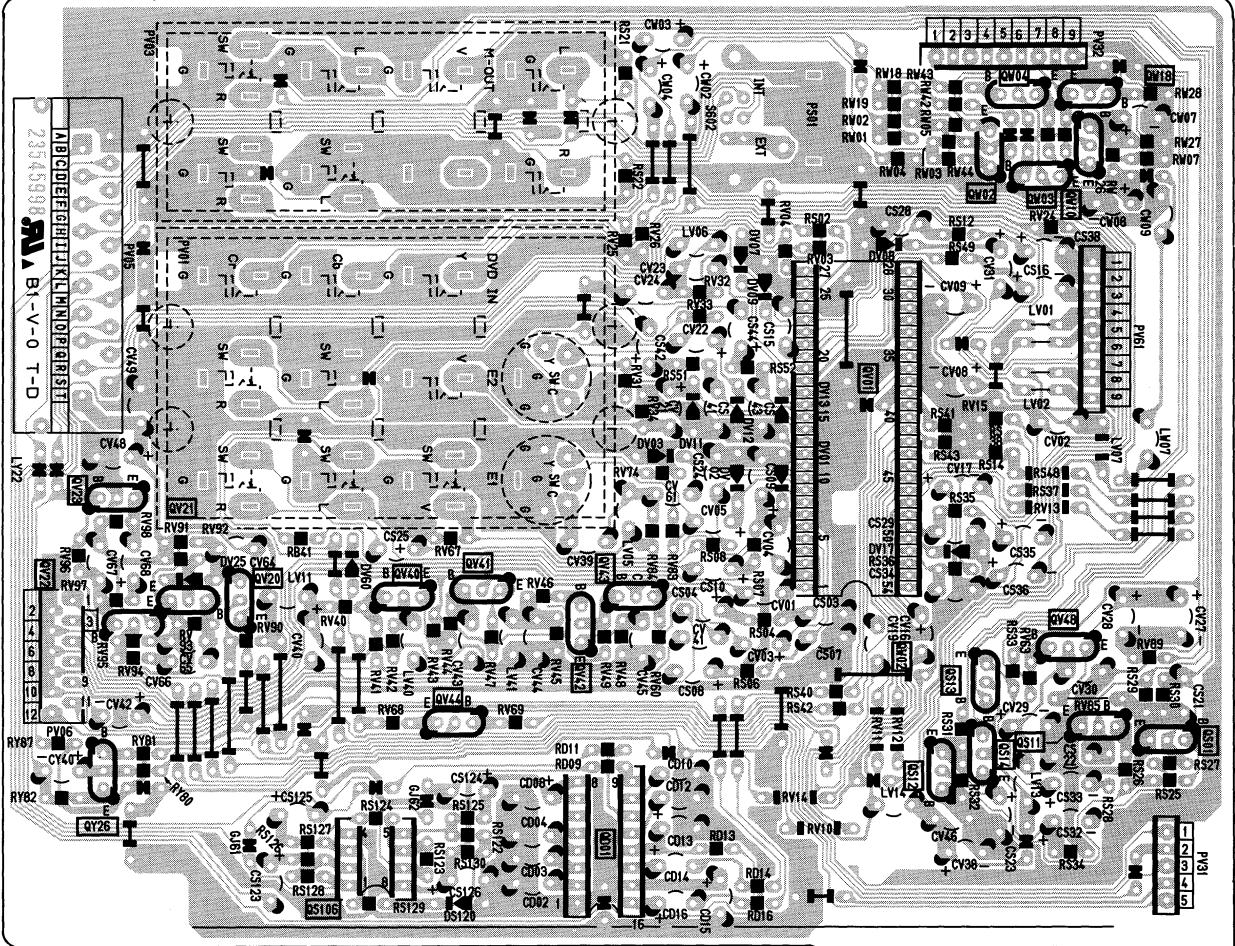
BOTTOM (FOIL) SIDE



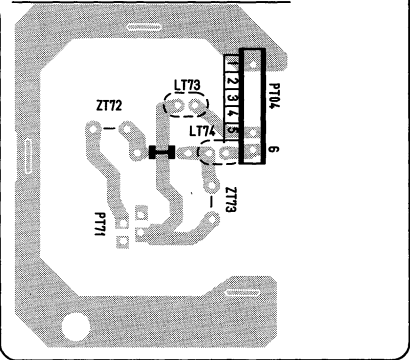
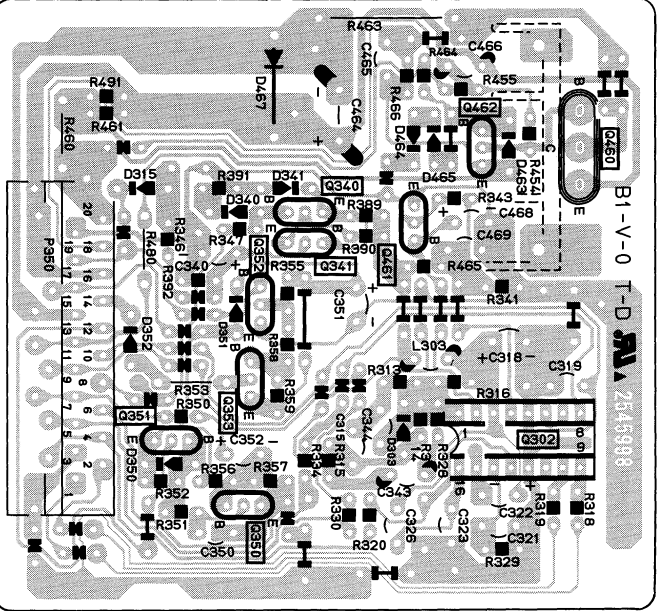
**POWER BOARD PB8760A-2**  
BOTTOM (FOIL) SIDE



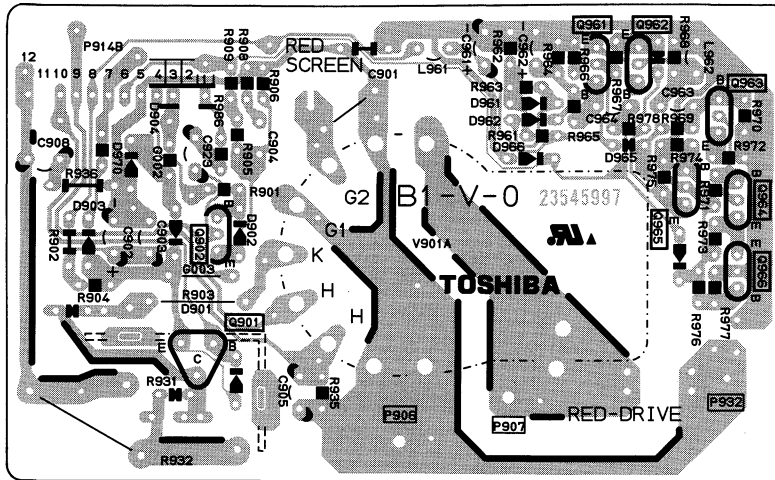
**BACK/AV BOARD PB8760A-3**  
BOTTOM (FOIL) SIDE



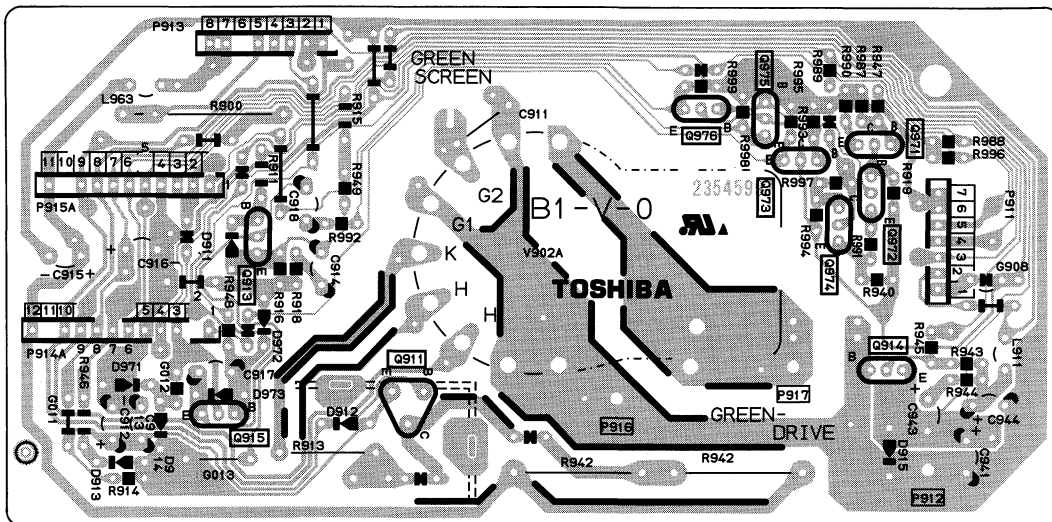
**DPC BOARD PB8760A-1**  
BOTTOM (FOIL) SIDE



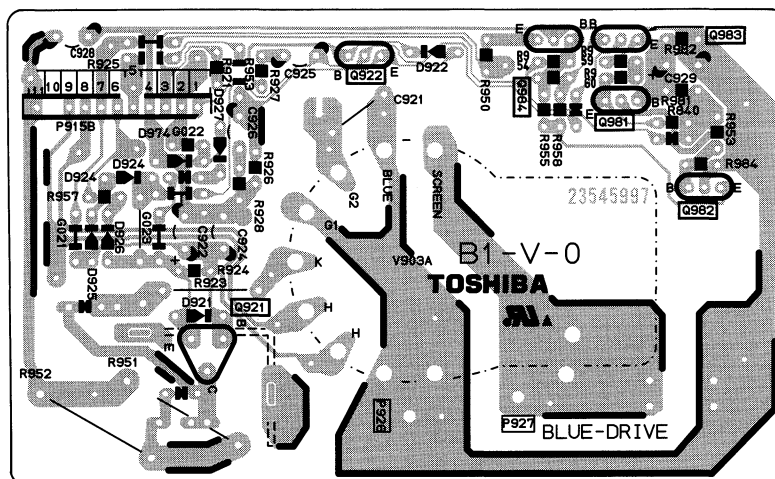
# **R-DRIVE BOARD PB8759A-1** **BOTTOM (FOIL) SIDE**



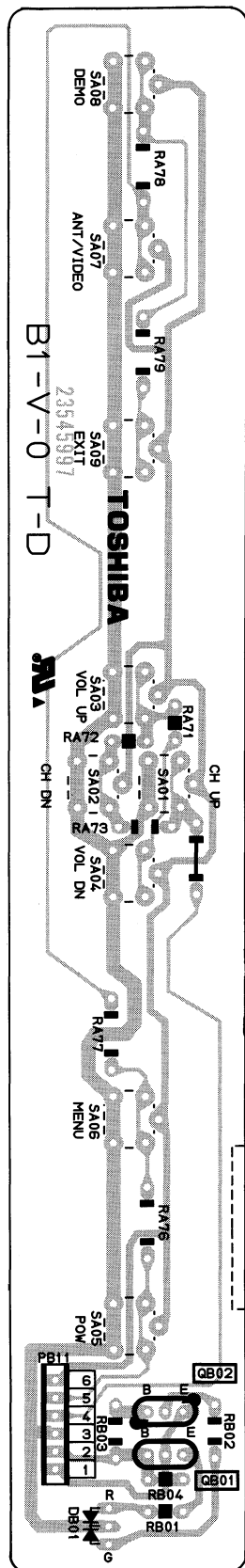
# **G-DRIVE BOARD PB8759A-2** **BOTTOM (FOIL) SIDE**



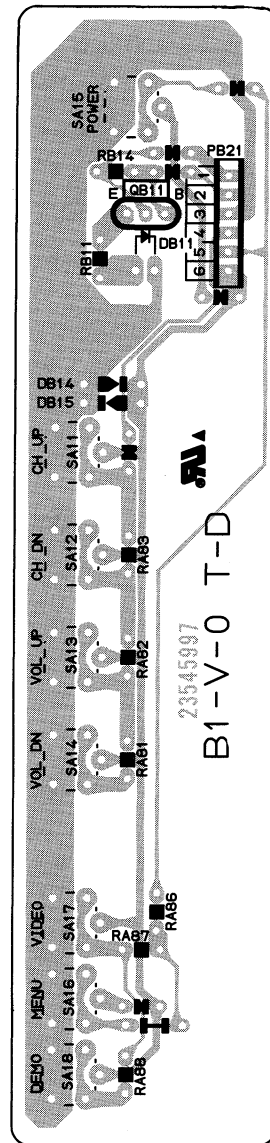
# **B-DRIVE BOARD PB8759A-3** **BOTTOM (FOIL) SIDE**



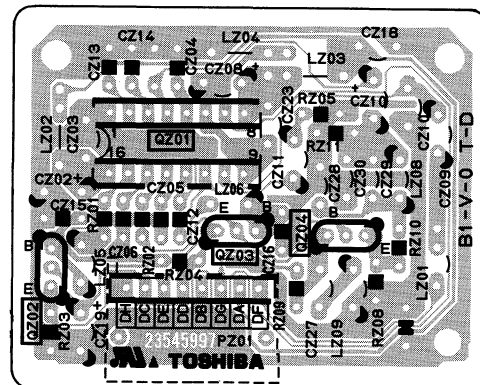
# **F-CONTROL BOARD PB8759A-4** **BOTTOM (FOIL) SIDE**



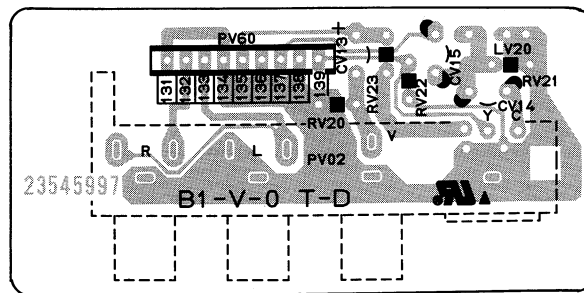
# **F-CONTROL BOARD PB8759A-8** **BOTTOM (FOIL) SIDE**



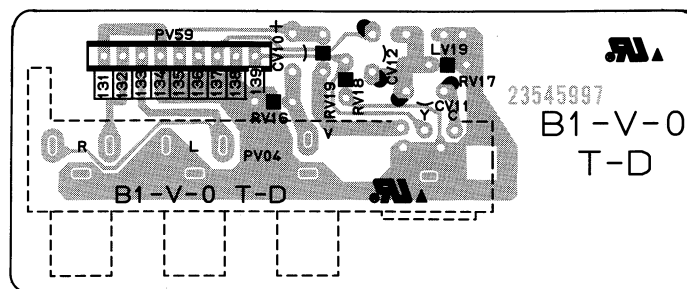
# **DIGI-COMB BOARD PB8759A-7** **BOTTOM (FOIL) SIDE**



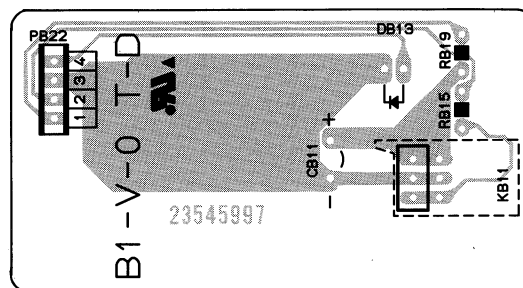
**BOTTOM (FOIL) SIDE**



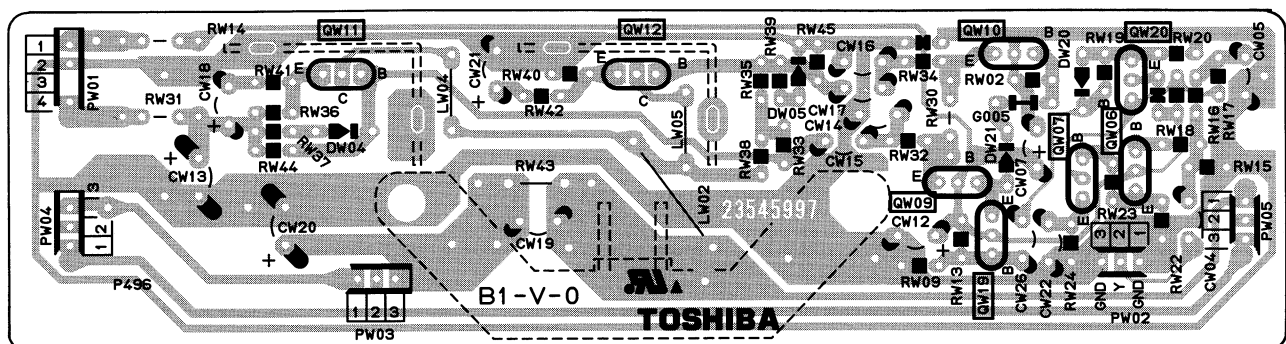
**BOTTOM (FOIL) SIDE**



**BOTTOM (FOIL) SIDE**

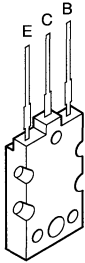


**BOTTOM (FOIL) SIDE**

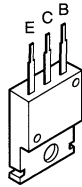


# TERMINAL VIEW OF TRANSISTORS

- ① 2SD2253  
(old)  
2SC5243



- ② 2SC3852  
2SD1763A  
2SC1569  
2SC4544  
2SA1788  
2SA1306  
2SA1186A



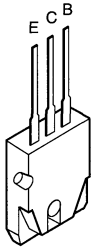
- ③ 2SC752GTM  
2SC2482  
2SC2655  
2SC4721P



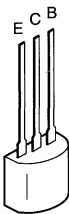
- ④ 2SC752  
2SA562TM  
2SA1015  
2SC1815  
2SC2878  
2SC1740S  
2SC2120  
2SA9335



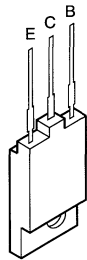
- ⑤ 2SA1788



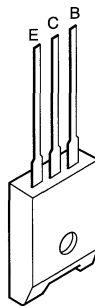
- ⑥ RN2203  
RN2201  
RN2004  
RN1203  
RN1204  
RN2204  
RN1205  
RN1202  
RN1201



- ⑦ 2SD1554  
2SD2253  
2SD1556  
2SD2553  
2SC5143



- ⑧ ON4409



**SPECIFICATIONS (Representative: TZ50V61)**

|                                                          |                                                         |                                                                |                     |
|----------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------|---------------------|
| TELEVISION SYSTEM                                        | NTSC standard                                           |                                                                |                     |
| CHANNEL COVERAGE                                         | VHF: 2 through 13                                       |                                                                |                     |
|                                                          | UHF: 14 through 69                                      |                                                                |                     |
|                                                          | Cable TV: Mid band (A-8 through A-1, A through I)       |                                                                |                     |
|                                                          | Super band (J through W)                                |                                                                |                     |
|                                                          | Hyper band (AA through ZZ, AAA, BBB)                    |                                                                |                     |
|                                                          | Ultra band (65 through 94, 100 through 125)             |                                                                |                     |
| POWER SOURCE                                             | 120 V AC, 60 Hz                                         |                                                                |                     |
| POWER CONSUMPTION                                        | 178W                                                    |                                                                |                     |
| AUDIO POWER                                              | 14 W + 14 W                                             |                                                                |                     |
| SPEAKER TYPE                                             | Two 6-1/4 inches (16 cm) round                          |                                                                |                     |
| VIDEO/AUDIO TERMINALS                                    | S-VIDEO INPUT (VIDEO 1/VIDEO 2)                         |                                                                |                     |
|                                                          | Y-INPUT: 1V (p-p), 75 ohm, negative sync.               |                                                                |                     |
|                                                          | C-INPUT: 0.286 V(p-p) (burst signal), 75 ohm            |                                                                |                     |
|                                                          | VIDEO 1/VIDEO 2/VIDEO 3 INPUT                           |                                                                |                     |
|                                                          | VIDEO: 1 V(p-p), 75 ohm, negative sync.                 |                                                                |                     |
|                                                          | AUDIO: 150 mV(rms) (30% modulation equivalent, 47 kohm) |                                                                |                     |
|                                                          | ColorStream™ (Color Difference) VIDEO, AUDIO INPUT      |                                                                |                     |
|                                                          | Y-INPUT: 1 V(p-p), 75 ohm                               |                                                                |                     |
|                                                          | Cr-INPUT: 0.7 V(p-p), 75 ohm                            |                                                                |                     |
|                                                          | Cb-INPUT: 0.7 V(p-p), 75 ohm                            |                                                                |                     |
|                                                          | AUDIO: 150mV(rms). 47 kohm                              |                                                                |                     |
|                                                          | VIDEO/AUDIO OUTPUT                                      |                                                                |                     |
|                                                          | VIDEO: 1 V(p-p), 75 ohm, negative sync.                 |                                                                |                     |
| AUDIO: 150 mV(rms) (30% modulation equivalent, 4.7 kohm) |                                                         |                                                                |                     |
|                                                          | VARIABLE AUDIO OUTPUT                                   |                                                                |                     |
|                                                          | 0-350 mV(rms) (30% modulation equivalent, 4.7 kohm)     |                                                                |                     |
|                                                          | AUDIO CENTER CHANNEL INPUT                              |                                                                |                     |
|                                                          | 1 V(rms) (30% modulation equivalent, 10 kohm)           |                                                                |                     |
| DIMENSIONS/MASS                                          |                                                         | Dimension (W/H/D)                                              | Mass                |
|                                                          | TZ50V61                                                 | 42-1/4 x 50-9/16 x 20-25/32 inches<br>(1,073 x 1,284 x 528 mm) | 253 lbs<br>(115 kg) |
|                                                          |                                                         |                                                                |                     |
| SUPPLIED ACCESSORIES                                     | Remote Control with 2 size “AA” alkaline batteries      |                                                                |                     |

\*Please refer to owner's manual in detail.

# **TOSHIBA CORPORATION**

1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN